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*Mary Howitt's illustrated library
for the young. [13 vols. in 2].*

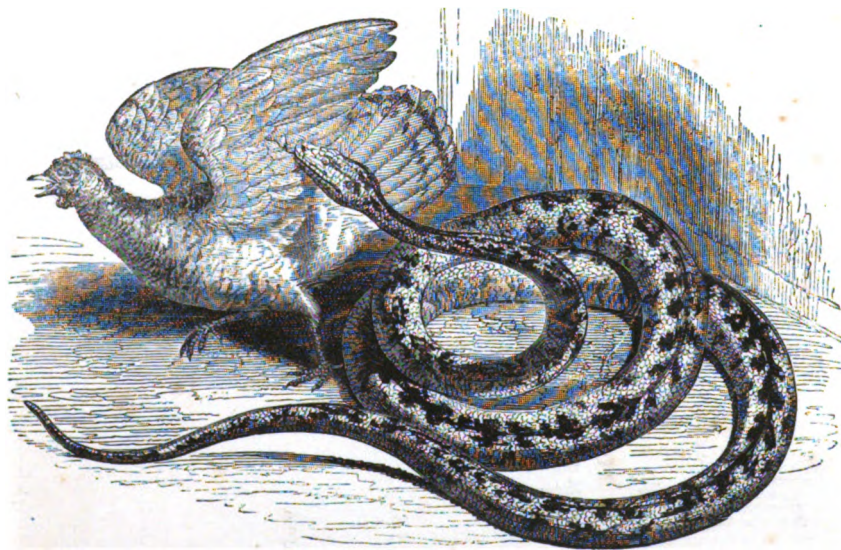
Mary Howitt

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MARY HOWITT'S

ILLUSTRATED

LIBRARY FOR THE YOUNG.



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THE ENGLISH HALL.

HUMAN HABITATIONS.

THE ENGLISH HALL.

IF it were only possible to give a tongue to brick walls, what wonderful histories we might listen to, as we sit by our fire-sides! Here, for instance, is a regular old English Hall, the story of which is worth knowing, I am sure, if we could only find it out. It was built, perhaps, in the reign of Henry VII., on the edge of an old forest of which the name now only remains, but which in those days was full of the King's deer, and in which Robin Hood and his merry men, or some such bold outlaws as they had in still earlier times, enjoyed free quarters. It was strongly built, and surrounded by a moat or ditch, filled with water, which was a sort of defence to it. There were no railroads, nor stage-coaches, nor canals, nor hardly turnpike-roads in those days. Travelling merchants, with woollen wares from the West of England, or cutlery from Sheffield, or other wares from other places, visited it and the neighbouring hamlet two or three times a year, with their goods, carried on pack-horses, and the master and mistress of the Hall, as well as other people, laid in stores of goods to last till they came round again. Ale was then brewed every year in October, stout brown ale, and not drank till it was twelve months old, and then served, with good broiled or roast beef and venison, for the ladies' as well as the gentlemen's breakfasts and evening meals; for in those days there was neither tea nor coffee. America was then only just discovered, and people were talking about Cabot, the merchant of Bristol, who had gone out in his ships to some New-found-land, in the north-west, whence it was hoped he would bring lots of gold.

Well, that generation was laid in its grave, and another and yet another succeeded, and the forest, on the edge of which the old Hall stood, was disforested—that is to say, all the trees were cut down, and some of the land was left open for the poor, and the rest given to the great man of the neighbourhood. The old Hall, therefore, had now its park of deer, and its farms of corn-land and meadow, which had once been forest; and a new road which led from London, either to the north or the west, was made near it; and the hamlet having grown into a town, had its weekly market, and its great fair twice in the year, whither were, as of old, the merchants with their goods, which they sold in booths at the fair. But the greatest change of all was, that the old Abbey in the neighbourhood had ceased, since the reign of Henry VIII.,

to be an Abbey, for the religion of the monks was at an end, and a new Earl, the King's last favourite, was in possession, and the new family at the Abbey was greater and richer than the old family at the Hall.

Again time went on, and there was civil war in the land, Puritan fighting against Cavalier, and Cavalier against Puritan. For a while the Puritans had the best of it; Cromwell was at the head of the nation, and the people of the old Hall, who were of his party, lorded it over the people of the Abbey, for the Earl was now an exile with the young Charles. But Cromwell died, and his party fell, and the Earl and the King came back again, and Charles, to be revenged upon his enemy, the master of the old Hall, listened to charges of treason against him, and his property was confiscated, or forfeited, and he and all his family, now almost beggars, went to America, and settled in Rhode Island, then a rising state.

The old Hall and its park, and corn-lands and meadows, were given to the great Earl, and were strictly entailed or secured to the eldest sons of all future Earls, so that when in a generation or two the then Earl was desperately in debt, he could neither sell it nor yet afford to keep it up as a dwelling-house, as it had been kept in its prosperous days.

It therefore stood unoccupied through all that generation, the farmer alone, who tilled the land, and his farm-servants, living in the kitchen and the commonest rooms. Years went on; the deer in the park were killed, and the park itself divided into fields and ploughed and grazed by common cattle. The garden became a wilderness, and cabbages and potatoes and turnips, which had been brought from Hanover into this country by George I., grew where roses and lilies had flourished in former times. The moat now held water only in part, and there it was stagnant, and in other places was grown over with greensward, and old trees bent across it. But little of the old furniture now remained, and that was moth and worm-eaten; the winds and storms of many winters had lifted tiles and lead from the roof, and the ceilings of the upper rooms were discoloured and mouldy from the wet that had come through. The old wainscote of various rooms was loosened from the walls, and the rats had merry times behind it; jackdaws and swallows and starlings had built for many a long year in the chimneys, and if you had been there at night, what with the scampering about of the rats, and the whiskings and shriekings and whisperings of the birds, you would have said the place was haunted, as many people did.

It was a fine old place, nevertheless; its walls were sound and its foundations strong, and the grey and yellow lichens and weather-stains in roof and wall gave it a picturesque and agreeable look. Well, there it stood, defying the hand of time, when a brave old London merchant, worth half a million of money, who had gone away from that neighbourhood fifty years before with



THE ENGLISH FARM-HOUSE.

only fourpence in his pocket, happened to go past it by the new railroad which was just then opened, determined to buy it and there end his days. And he has bought it; for the lawyers found out that, after all, the Earl could sell it; and now the old Hall will be restored and refurnished, and good days will again return to it.

THE ENGLISH FARM-HOUSE.

A RIGHT pleasant home is that of the English farmer—the jolly, good-tempered, old-fashioned English farmer. Here you see it; a comfortable, old-fashioned, half-timbered house, standing in the midst of pleasant meadows, with its large, rather untidy garden on one side, and its large, well-supplied farm-yard on the other. The farm-yard may be rather untidy, like the garden; all old-fashioned farm-yards are so, and that's a pity; but the creatures that live in and around it, are all happy and well-cared-for, and that reconciles one to it, though the farm-yard, and all its cow-houses, and stables, might be as clean as a parlour, and the farmer himself be no loser, and the creatures still happier, if it were only the custom.

But we are not going to quarrel either with the farmer or his farm-yard; we know too well for that what a nice place a farm-house is for children. They can have famous swings hung to the cross-beams of the waggon-shed, or the thrashing-barn; they can go and peep about into all sorts of curious places,—up into the old pigeon-house, or the corn-chamber, which they can only reach by an old flight of stone steps on the outside; and into the old barns, where birds have built in the thatch. And then, what an orchard there is at the farm-house! full of old, mossy apple-trees, and tall pear-trees, and damsons, and filberts, and all sorts of old-fashioned fruit: and the farmer never troubles himself, nor his wife either, how many apples, or pears, or damsons, or filberts you get. “You're welcome, you're heartily welcome!” say they; and they make you feel that you are so.

If you have a lame or a sickly cousin,—if you have an orphan school-fellow, who has not the spirit to stand up for himself, and who is the fag and the butt of the school,—remember to ask your uncle, the farmer, or your grandfather, if he should chance to be a farmer, to let poor Tommy Littlejoy spend his holidays at the farm, instead of at school; for he has no rich friends of his own. If you do so, you will give that poor little chap such a happiness as he has no notion of; and when he goes back to school, with a big bag of apples, and a little bag of nuts, and a plum-cake nearly half as big as himself, won't his school-fellows like him a great deal better? and when he presents the pork-pie and the sausages, and the hare and the brace of birds, which the farmer's wife has sent to the schoolmaster's lady, with her compliments, good times will begin at school even for poor Tommy Littlejoy!

LIFE AMONG THE JAPANESE.

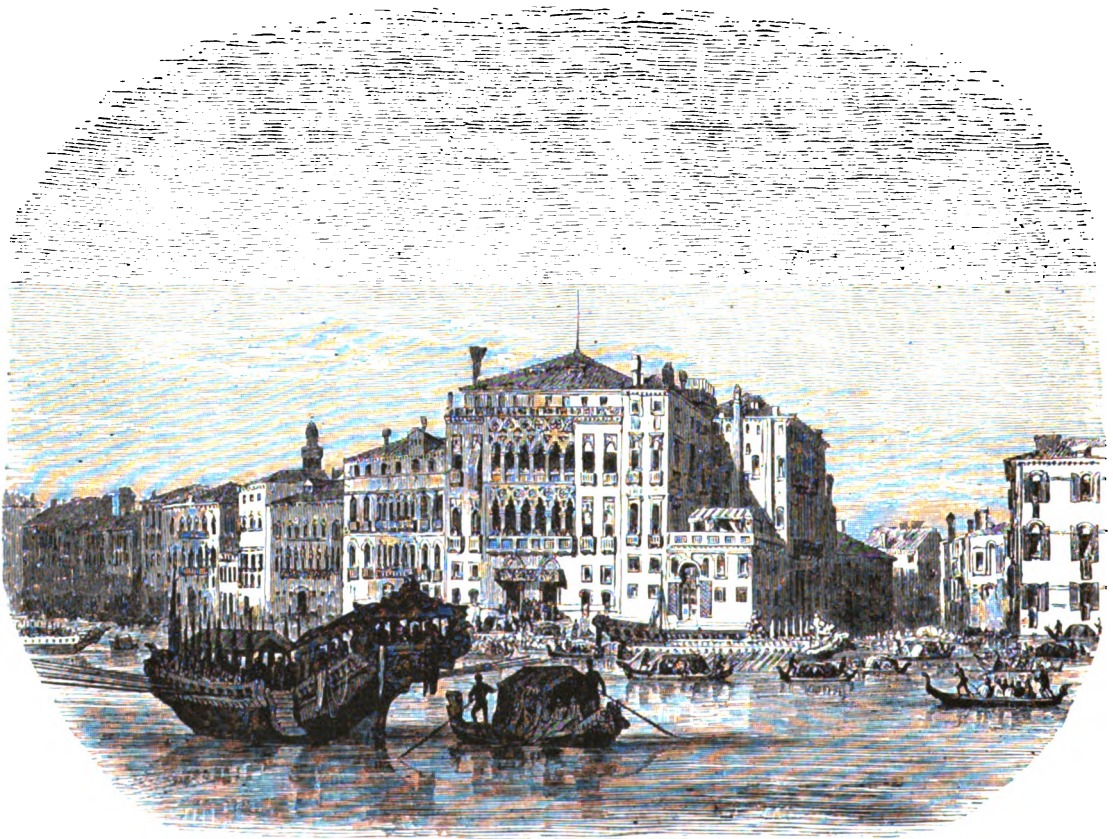
THE Japanese do not like foreigners. The only foreigners whom they allowed to enter their country were the Dutch ; and even they were only allowed to go to the port of Nagasaki, in Kin-sin, the smaller of the two principal Japan isles, Nippon being the larger. Suppose, therefore, that you were a Dutch merchant, and had brought a cargo of raw silk, cotton, sugar, dye-woods, seal-skins, pepper, and spices, quicksilver, iron, tin, and glass ware, all of which the Japanese are glad to receive from you ; still they would not allow you to land and walk about the narrow, winding streets of Nagasaki, still less take a ramble into the country, or climb the hills round the town, and take a peep into the temples which are scattered over them. Instead of doing so, the moment your ship had entered the harbour, a number of Japanese would have come on board and ordered you and your crew off to the small island of Decima, hard by, where you had hardly room to turn yourself round ; and there you would have had to remain until the Japanese had unloaded your ship and re-loaded it with copper, spun silk, rice, gold, and silver, fine porcelain, and japanned wares.

The reason why the Japanese had such a dislike to all foreigners except the Dutch, was, that the Jesuits, who were introduced into the country by the Portuguese, endeavoured to overturn the old religion and convert the people to that of the Roman Catholics. The Dutch revealed this design to the Japanese ; a fierce persecution of every one holding Christian opinions began, and all foreigners were expelled, except the Dutch ; and the Japanese were forbidden to leave their country, or if they did so, they were never permitted to re-enter it. That was their law in 1638, and it has remained their law ever since, although the Americans just lately have succeeded in opening a free trade with Japan.

Although as yet nobody has made a voyage of pleasure to Japan, and even their favourites, the Dutch, were confined to the little island of Decima, still, by one means or another, we have come to know something about the country and the way of life there. We know that in Nippon, the largest of these islands, there are mountains and volcanoes, and that earthquakes and terrible hurricanes are not unfrequent. Nevertheless it seems to be a pleasant and fertile country ; rice is cultivated there, and tea, which is native to the soil, the hedges in Kin-sin being formed of the tea-shrub, as ours in England are formed of hawthorn. Many beautiful shrubs and flowers grow wild ; and oranges, peaches, grapes, and mulberries are abundant. As the people eat very little animal food, and are clothed in silk and cotton, there are a very few sheep and horned cattle. Horses are small, and used only by the nobles ; and pigs, they have none, excepting in the neighbourhood of Nagasaki ; and those were brought by the Dutch. They have, however, foxes, dogs, and cats ; the two



JAPANESE GENTLEMAN'S HOUSE.



PISANI PALACE, VENICE.

former being held sacred, and treated with great respect; and the latter being great favourites with the ladies.

Talking of cats and ladies, naturally brings us into the house itself. But before we enter the house and see what is within it, I must tell you that all Japanese houses are similar to that on the opposite page, always two stories high, built of wood and plaster, and whitewashed, all, excepting the palaces of the Nikado, or chief monarch, and of the Kubo, or ruling monarch, which are built of hewn stone, and surrounded with moats and fortifications. This, however, belongs to a gentleman, perhaps a merchant, or an officer; and whichever it might be, his father was the same before him, and his son will be the same after him, such being the law of Japan.

Now, if when we walk into this house, we find that we are many in number, and fill the room inconveniently, we shall soon see that one or two of the partition walls, which are of paper, and can be slid away like a pasteboard shutter, will be removed, and another room or two added; or if we want a little private talk with the Japanese lady, another pasteboard partition will be slid across, and we shall find ourselves in a snug little room. Tables and chairs we shall not find in this house; but everybody, clothed in loose garments of silk or cotton, fastened round the waist with a girdle, will be sitting or lying on cushions or carpets. There we shall see them sitting, whether men or women, with fans in their hands, eating from little porcelain basins, brought in on a beautiful square tray of wood or japanned ware. They are not very handsome, according to our notions of beauty, having yellow complexions, deeply-sunken eyes, and fat noses. The men carefully pluck out their beards, and shave the top and back of their heads every day, leaving the hair only at the sides, which is fastened upon the crown of the head. You will find several wives in this pretty house; and these good women, by way of adding to their beauty, bind in their hips so tight, that their toes turn inward, and they can hardly walk. Books, however, they have; some on the history of Japan, others on botany and various branches of natural history, with good engravings. They have also a fine Encyclopædia, in eighty volumes, almanacks for every year, and works on poetry, and music, which is much cultivated.

THE PISANI PALACE, VENICE.

As I have already said, if houses had tongues, they could tell us wonderful histories. Still more wonderful would be the histories which kings' palaces could tell, if they had the power of speech; and of all palaces in the world, none so wonderful as those of Venice.

Venice is one of the most famous cities in Europe; it stands, as you will see by looking at a map of Italy, on the Adriatic Sea, in that part which is called

the Gulf of Venice. Its first inhabitants were fugitives, or people who fled, about thirteen hundred years ago, from various towns which were threatened by invasions of the Goths, a warlike, northern people, who ravaged Italy at that time. These fugitives took refuge in various little islets and strips of land, which lay just above high water in the lagoon, or shallow water, which lay between the open sea and the firm land of the shore. The number of inhabitants increased, and three hundred years later a seat of government was founded on the Rialto, one of these islets, which was clustered round with upwards of seventy others, all which being connected with bridges, became the city of Venice.

During what are called the middle ages, Venice was one of the most powerful cities in Europe, and sent forth many adventurers and many ships to aid in the Crusades, or wars for the recovery of Jerusalem from the Saracens, or Mahometans.

The government of Venice was republican, and the head of the republic was called a Doge, which means Duke; and although his power has long been at an end, the Palace of the Doge, built of marble, still stands, and is one of the finest old palaces in existence. It is situated on what is called the Grand Canal; for Venice being built upon so many islands, all of which are, of course, separated by water, has not streets with carriages and horses, like other cities, but canals and boats, or gondolas, as they are called; so that instead of sending for a carriage, you send for a gondola, and instead of driving, sail about the city.

There are many fine churches and public buildings, which are greatly admired. The Great Canal is crossed by a lofty bridge of one arch, called the Rialto, and as it leads to the prisons, and all criminals pass over it, the name of the Bridge of Sighs has been given to it. In what is called the Square of St. Mark stand two lofty granite pillars, on one of which is placed the brazen figure of a winged lion, which was the emblem of the republic of Venice in the days of its glory. This is called the Lion of St. Mark.

Besides the Palace of the Doge, there are many others also very fine, and in many of which valuable paintings and sculptures still remain. The Pisani Palace, of which we have here an engraving, is one of these.

A HOME IN SWITZERLAND.

HERE you see a picturesque, comfortable home among the Alps, which are the great mountains of Switzerland. It must have been built by pious, God-fearing people, because texts of Scripture, expressive of trust in God, are carved upon the beams in front, though we cannot see them in our engraving. And the good Swiss peasant is surrounded by so many grand features of nature, that he may well be reminded of his Creator; while the avalanche, which may over-



SWISS COTTAGE.



FARM-HOUSE IN NORWAY.

whelm him and his family in a moment, and the glaciers, which may extend over his fields in the valley and destroy them for ever, teach him to trust in God, who alone can defend him from these terrible powers which surround him.

The Alps, the loftiest mountains in Europe, and which are covered with everlasting snow, fill the whole of Switzerland. But stern and vast as these mountains are, they are intersected or divided by valleys of wonderful beauty and fertility. Beautiful lakes lie in the bottom of these valleys, and rivers of equal beauty, which have their source among the mountains glaciers, flow through them. The grape and other delicious fruits flourish here; somewhat higher is a colder region, where the oak-tree grows; higher still, the beech, beyond that, the fir-tree, and beyond the fir-tree lie rich pastures, where herds of cattle graze, and where stand the *châlets*, or mountain farms, of the Swiss peasant, something like the *süter* of the Norwegian farmer, which we have described below. Beyond this pasture land, the mountains become drearier and drearier, plants only of the hardiest kind are found there; afterwards no vegetation whatever, nothing but glaciers and eternal snow. The glaciers are masses of ice formed on immense beds of snow, from the snow having melted during the short summer, and frozen again in winter. The surface, however, is not smooth, like common ice, but broken up into fantastic shapes, as if a stormy sea had suddenly been frozen. The glaciers sometimes change their places; they will decrease for some years, and then again increase, and on these occasions often destroy meadows and cultivated hill-sides, which the poor farmer has spent years in making fertile. The destructive avalanches of which we spoke are great masses of snow, as large almost as mountains, which become loosened from some cause in the higher regions of the Alps, and falling down, sweep away before them fragments of rock, trees, houses and even whole villages.

The Swiss peasant is not only pious and industrious, but is so attached to his mountains that he rarely leaves them, or if he does, pines for them, and has sometimes been known to die of home-sickness.

A FARM-HOUSE IN NORWAY.

NORWAY is a cold, wild, mountainous country; the days in summer are very long, and there is scarcely any night; in the winter, on the contrary, the nights are very long, and the days short; but it is a nice, old-fashioned country for all that, and if you and I were there we should have a very good time of it.

See here is a Norwegian farm-house, let us walk in, for the Norwegian farmer and his family are very hospitable, and they will make us thoroughly welcome. This house, with many others like it, stands in a pleasant valley, through which runs a little river, in which there is plenty of fish. There are lofty hills on

each side the valley, with scattered fir-woods upon them, which furnished timber to build the house at first, and now supply fuel to keep it warm. High up among the hills is a pleasant little summer-farm, which is called the *Säter*, where the flocks and herds are kept in the fine weather, because there is good pasturage there. I called it a *pleasant* little summer-farm, and so it is; for there are the pretty dairy-maids who milk the cows and goats, and make butter and cheese, and gather wortleberries and wild strawberries for jam; and young men too, who look after the cattle, and cut the grass, and make hay, and when their work is done, they dance and sing, and altogether have a merry time.

And now, having just looked round us, and seen the wooden storehouse, and the great wooden stable and sheep and cow-house, with its hay-loft above, let us enter the house itself. There, is it not a comfortable place? What a large, cheerful family sitting-room this is; and instead of a carpet, the boarded floor is scattered over with nice little fresh, green twigs of juniper or pine, which look very pretty, and fill the room with a fresh and fragrant smell. And how busy everybody is, some spinning and some weaving, for they make at home all the bedding and all the clothes for the family, and though it is now only breakfast-time, they have been up at work several hours. And there is a party too, who are bringing in a bear which they have just killed in the hills, beyond the summer-farm. They have been out all night, and are desperately hungry, both them and their dogs; but there is plenty for them, plenty of smoked meat and fish, both fresh and salt, and bread and butter, and ale and brandy, which they have made at home from corn and potatoes. There is no fear of want of food in this house, I can assure you, and as you would see if you had only been into the storehouse. For here, as they have no butchers and bakers and grocers to come round every morning for orders, and bring in directly what is wanted, they always have the storehouse full of everything they may want, and most of which they make themselves. Such barrels of flour and meal as they have; such chests of baked bread and cakes; such strings of sausages hanging up; such hams and sides of bacon; such mutton, and bear's hams and bear's feet; and such jars of preserves, and such numbers of cheeses and tubs of butter, and such joints of fresh meat hanging up and meat in pickle! And such store of sugar and salt, and soap and pepper, and tobacco and candles, and everything that you can think of; and such barrels of ale and brandy, as those store-rooms and larders and cellars hold, you would be quite astonished!

Well, you see these bear-hunters and everybody have had a good breakfast, and you have heard the story of the bear-hunting; how they set out last evening and climbed up the mountain, calling at the summer-farm to get a good supper, and so up to the bear's den by two or three o'clock in the morning. A number of little dogs, too, they had with them, because these little dogs attack the poor old bear behind, which he does not like, so he sits up and tries to defend himself with his fore-paws, and is soon shot.



LOG-HOUSE IN THE AMERICAN BACK-WOODS.

If we were to stay at this comfortable farm till autumn, we should see a great many things that would interest us. We should see the Laplanders come down in their skin dresses, to sell fur shoes and gloves, and fat reindeer for the winter supply of venison. Very simple, half wild people are these Laplanders, but inoffensive and very grateful for any kindness, and I am sure we should like to talk with them, if we could make ourselves understood and know something about their wild life on the other side of the mountains. And if we stayed over the winter as well as the autumn, we should enjoy it still more. Many a pleasant sledging-drive should we have by star-light or moon-light, all wrapped in warm furs, with the merry sledge-horse bells ringing; and when Christmas came, we should see such rare old-fashioned hospitality, that the cows and horses and sheep, and even the very birds, had their share in it; and there would be such a succession of Christmas visits from house to house through the whole neighbourhood, with Christmas jollity in-doors, dancing and merriment, that we should never forget as long as we lived.

LOG-HOUSE IN THE AMERICAN BACK-WOODS.

THIS is a log-house in the back-woods of America, and the beginning of a large town. I will tell you how it is. A man and his wife, with rather a large family, who lived in Manchester or Birmingham, or some other large English or Scotch town, and who was quite a poor man, managed, by his care and industry, to save up as much money as would take them over and settle them down in America. They did not stop at any of the large American cities on the coast, but travelled on, by railway and steam-boat, many hundred miles up the country, into what are called the back-woods—that is to say, the wild forest, in which are but few settlers as yet, and where the Indians lived until lately.

They brought up with them good bedding and plenty of blankets, in a cart which they bought when they left the last steam-boat, and a good cow, also, which they bought at a squatter's farm by the way. Thus they travelled on very merrily till they came to a place which took their fancy. It was on the banks of a very pleasant river; the situation was healthy and the soil good, and the timber, though close, could easily be cleared by burning. Here, therefore, they determined to settle.

They were only squatters, but they were full of heart and hope. The father and the eldest son, an active lad of twelve, soon cleared a piece of land with fire and their good American axes, and sawed up wood for their log-house. Before this was built, however, they had sown a little field of maize or Indian

corn, which soon came up and yielded a wonderful harvest, and by that time the log-house was fit to live in.

What a busy life theirs was ! They had not a moment either to grumble or be discontented. The youngest children had to work, either to collect fire-wood or huckle-berries, which are very good eating. They had wild turkeys in plenty, and deer which the neighbouring Indians sold to them. Before long other settlers came, and government surveyors, who measured the land and sold it to them at a cheap price. Our good settler set up a mill near his log-house, on the river, to grind the corn of all the settlement, and a saw-mill to cut up the timber. He was growing rich apace. More and more settlers came ; and as there were lots of children, a school-house was built and a church, and a great store was opened, and they had an hotel ; and so the place grew into a town, and very soon had its name on the map as well as New York or Philadelphia.

LIFE IN NEW CALEDONIA.

THE island of New Caledonia is divided from Australia by what is called the Coral Sea, which is full of coral-reefs, shoals and low islands. The country is not unlike that of New South Wales, with its rocky barren mountains, amidst which lie pleasant and fertile valleys, where the palm, the banana, and other tropical fruits grow in perfection. The inhabitants are strong, active and well-made, and very friendly to strangers. They were probably those whom Captain Flinders describes as having seen in their canoes fifty feet long, in which they traded from island to island.

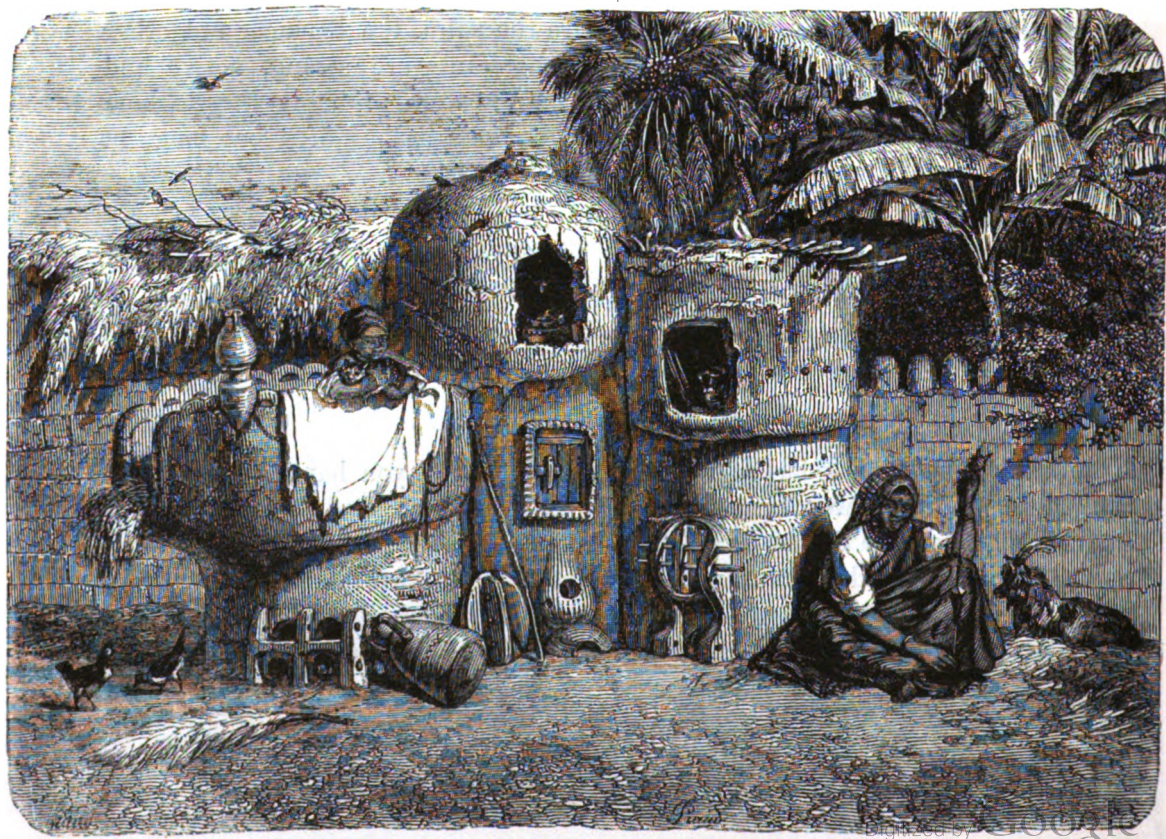
The inhabitants of New Caledonia live in well-constructed huts, as you see in this picture ; and they cultivate yams, cocoa-nuts and other vegetables ; and for savages appear to be well-to-do and comfortable people.

A FELLAH DWELLING.

You know what a wonderful old country is Egypt ; you have read of it in the Bible. Joseph was carried down to it as a slave, and became a great man there under one of the Pharaohs or kings, about seventeen hundred years before Christ. The descendants of Joseph and his brethren, or the children of Israel, as they were called, remained about four hundred years in Egypt, and had a great deal of trouble to get away from the country, under the guidance of Moses, as you may read in Exodus.



A HUT IN NEW CALEDONIA.



Egypt was a great and powerful country in those early times, and had many learned men, and astrologers, and magicians, and wonderful architects, who built huge pyramids, which are still standing, as burial-places for their kings. And not only great men and kings were buried in them, but animals of various kinds, and even reptiles, which were regarded as gods by the Egyptians, who, as you may believe, were not only very learned in some things, but ignorant in others.

It is not, however, about ancient Egypt and its kings that I was going to speak, but about the Fellahs, or poor peasants of Egypt, at the present day; and one of the dwellings of which you see on the opposite page.

In the midst of a grove of date-palms, stands a Fellah village, not far from the banks of the famous river Nile. Let us advance nearer. It seems silent and melancholy: and it is a silent and melancholy place, though mothers are there with their children; for life is not very merry among the peasants on the banks of this old Egyptian river.

The walls of their dwellings are formed of mud and straw, and each one is built around the stem of a date-tree, the broad leaves of which form its roof; while other palm-trees cast their pleasant shade around, and wild, beautiful climbing-flowers often adorn its outer walls. The house is close and dark inside; the light and air are admitted only through small loopholes, rather than windows; and the whole is dirty and forlorn. Of furniture, there is next to none; a few earthen pots, a jar to hold their dhurra, or grain, a hand-mill to grind it, a mat to sleep upon, and a carved box of lemon-wood to hold their few trinkets, if they have any, are all their household goods. Hard dhurra-bread and onions are their ordinary food, and a few eggs and a slice of buffalo-flesh their greatest luxury.

Poor as these people are, they are heavily taxed by their government; and if they cannot pay, the husband is dragged away to be bastinadoed and put in prison, unless the wife can obtain his liberty by her cries and tears, or else purchase it by the fruits of her industry. Perhaps this poor woman, whom you see here at work with her spindle, may be working hard for this purpose. All this is very sad; but still sadder is it that the Fellah husband is not kind to his wife; he treats her as his slave. She cooks his scanty meal for him, and waits on him while he eats it, and then must be satisfied with the little he leaves for her. These poor wives are said to be naturally very kind-hearted and patient, and a great deal more industrious than their husbands, who may be seen lounging along, with their pipes in their mouths, while their wives toil after them with, perhaps, one child on their backs, another in their arms, and a heavy burden on their heads.

The Fellahs are rather short, and small in stature. The dress of the men is a long robe, bound round the waist by a girdle of red cloth, with a pair of full trousers of white or blue cotton, a white cotton turban on their heads, and bare

feet. The dress of the women is blue or brown cotton; and they wear a curious head-dress, from which a handkerchief of silk and cotton hangs down cornerwise in front, leaving the whole face covered, excepting the eyes. When they are rich enough, the head-dress is adorned with pearls; and they wear bracelets on their arms.

Sometimes individuals of the Fellah tribe are sold for slaves. Miss Bremer, a Swedish writer, saw one such on a sugar plantation in Cuba.

THE GOLD-MINER OF PERU.

LET us now transport ourselves into South America, into that rich and beautiful region of Peru, which Pizarro conquered from the Incas about three hundred years ago. Peru lies on the western side of South America, as you may see by looking at a map. A vast chain of mountains, called the Andes, from a Peruvian word which signifies copper, runs the whole length of the continent of South America, parallel with the coast. These mountains abound in mines of silver and gold, copper and other metals, precious stones and beautiful marbles. Vast forests clothe their sides, mighty rivers spring from their perpetual snows, and many of their summits, nearly twenty thousand feet above the level of the sea, are among the highest in the world.

A strangely grand and terrible region is that of Peru, with its beautiful tropical vegetation, its snow-covered mountain-chain, its ever-burning volcanoes, its terrible earthquakes, its mild climate where all the fruits of Europe flourish, and where, west of the Andes, rain is almost unknown. There grow palms of various kinds, among which is the wax-bearing palm, which gives light to the natives, and ferns almost as large and beautiful as palm-trees; many valuable dye-woods used in the manufactures of Europe, and precious medicinal plants, among which is the famous Cinchona, or Peruvian-bark, respecting which I shall relate before long a beautiful story.

As I told you, Peru was conquered from the Incas, or kings of the country, by Pizarro, a cruel Spanish officer, who could neither read nor write. He founded the city of Lima, the capital of Peru, in a lovely plain by the sea, and gave it a name which signified the city of kings. The houses of Lima are only one story high, and roofed with cotton cloth or fine mats, for as it so seldom rains this roofing is sufficient. Earthquakes are, however, so frequent here, that the people live in perpetual dread of them. About a hundred years ago the city was almost destroyed by one, as was also its port of Callao, at about four miles distance. And not only was the earthquake destructive on this

occasion, but the sea likewise; for so great was the agitation, that the sea rushed back to a great distance from the shore, and then returned with such a tremendous swell, that it not only buried the town of Callao, but the whole neighbouring country.

We must, however, leave Lima, with its palaces and churches, in which the images of saints are adorned with gold and precious stones, and, passing through groves of orange trees, direct our steps across the plain to the foot of the mountains, where, entering between walls of rock, we ascend, and still ascend, through every variety of mountain scenery, higher and higher, into the solitudes of the Andes, where, ever and anon, we see the huge condor perched on the lofty peaks, searching for its prey in the lower valleys, until at length we reach, at nearly 14,000 feet above the sea, the mining city of Pasca, in the midst of the bleakest and most desolate scenery. The bee-hive-looking hut of the Peruvian miner, which our picture represents, however, must, if we judge from the cactus and the aloe growing round it, be situated somewhat lower on the mountain.

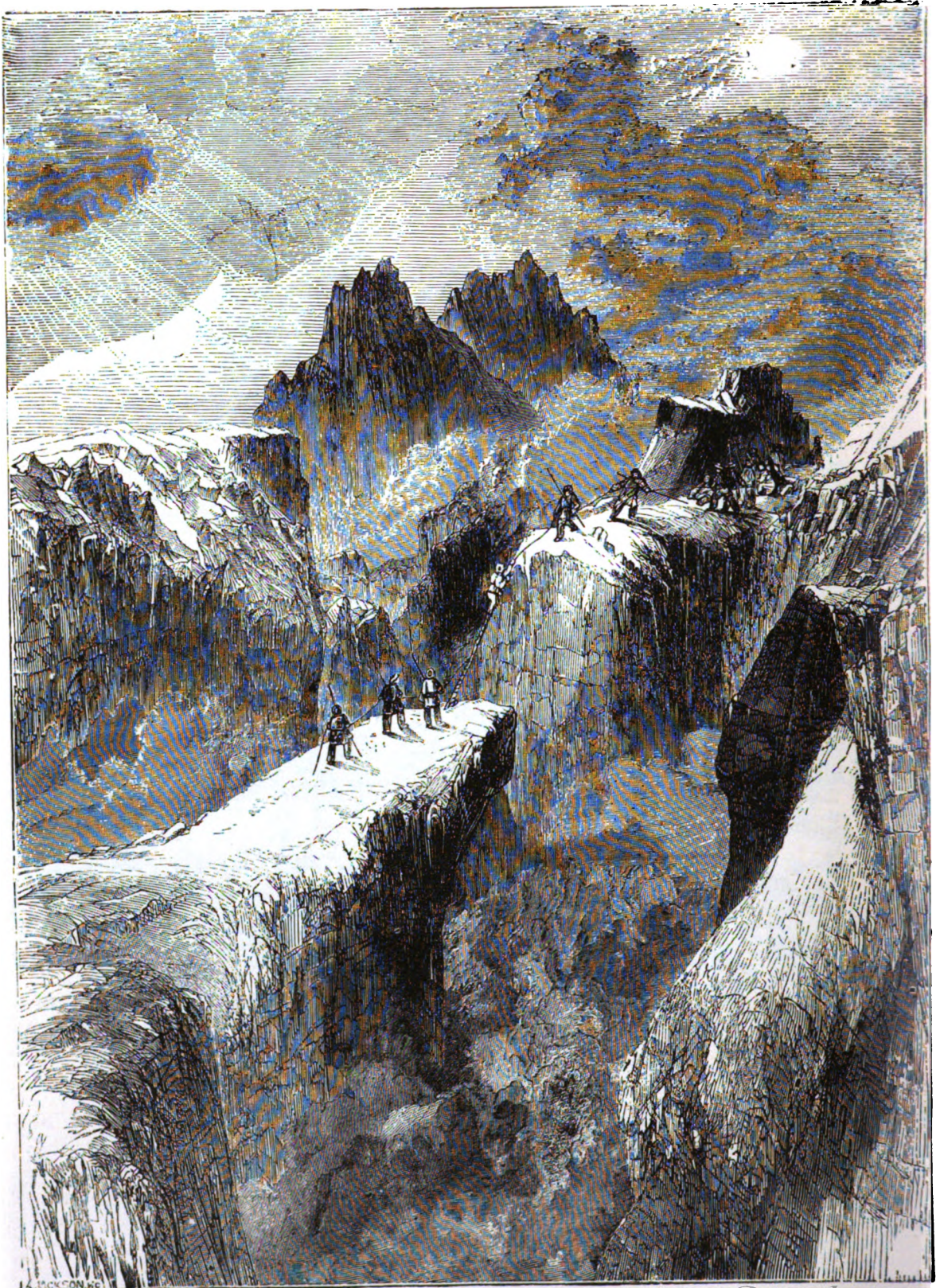
The Peruvian miner works hard, and is not badly paid; and when he happens to find a new vein of ore, receives a large reward; nevertheless he is not a happy man, according to our notions of happiness. Pasca, like many an English town, abounds in liquor-shops, where ardent spirits are sold, as well as maize bread and sun-dried beef, which is the food of the miner. Besides the fiery liquor in which the miner indulges, he chews the leaf of the coca, which is similar in its effects to tobacco and opium, only still more powerful. This terrible plant, which is native to Peru, is cultivated for use on the Andes, at from 2,000 to 5,000 feet above the level of the sea. The leaves are gathered while young, and dried in the sun; and even the scent is so powerful, that a stranger sleeping near them suffers from violent headache. Even in the time of the Incas, the Peruvians indulged in this dangerous habit.

The coca-chewer, like the brandy-drinker, is subject to innumerable diseases. He soon loses his strength; he is unable to sleep; his head is racked with horrible pains;—and again he flies to his enemy, the cause of all his sufferings, for relief. Sometimes his appetite fails him altogether; at other times it becomes quite wolfish, especially for animal food: and such is the terrible slavery of this habit, that the coca-chewer can never break himself of it. Death alone releases him from it.

We will hope, however, that the miner who owns the little bee-hive hut of our picture, has strength enough to resist the coca-temptation, and that he lives soberly and happily with his pretty wife and children.



HUT OF A GOLD-MINER IN PERU.



CLIMBING A WALL OF ICE.

THE CLIMBERS OF MONT BLANC.

MONT BLANC, the highest mountain in Europe, is the principal summit of the Alps, a chain of mountains which commencing near the Gulf of Genoa, pass into Switzerland and the Tyrol, and dividing Austria from Italy, terminate near the north point of the Gulf of Venice.

The Alps are supposed to be so called from *Alp*, or *Alb*, a Celtic word, which means *white*, the white or snowy mountains: their higher ranges, which can be seen at an immense distance, being covered with perpetual snow. The Alps are divided into seven portions, called the Maritime, the Cottian, the Graian, the Pennine, the Helvetian, the Rhætian and the Noric Alps.

The Maritime Alps extend about 100 miles from the Gulf of Genoa to Monte Viso: many rivers rise from this chain, among which is the Po. The only carriage-road across these mountains was formed by Napoleon Buonaparte. The Cottian Alps extend about sixty miles, from Monte Viso to Mont Cenis. The Graian Alps about the same distance, from Mont Cenis to the Col de la Seigne. The pass of Mont Cenis is a celebrated one. It was only a mule-track until 1808, when Napoleon formed a splendid carriage-road at the height of nearly 7,000 feet. The pass of the Little St. Bernard, in this chain, is supposed to be that by which Hannibal entered Italy in the winter season, and so doing lost most of his elephants. The Pennine Alps extend also about sixty miles, from Mont Blanc to the Simplon, including Mont Blanc, Monte Rosa and Mont Cervin, the three loftiest peaks in Europe. There are three great passes in these mountains: that of the Great St. Bernard, on which, at the height of 8,000 feet, is the Hospice, with its celebrated dogs, trained for the purpose of recovering lost travellers; that of Mont Cervin, at the height of 11,000 feet; and the Simplon, which is the most magnificent of the passes formed by Napoleon. Napoleon himself, like Hannibal, crossed the Alps on his way to Italy; but he did so by the pass of the Great St. Bernard. The Helvetian Alps are those which occupy Switzerland, and they extend from the Simplon to Mont St. Gothard, which is passed by a carriage-road at the height of about 7,000 feet. The Rhine, the Rhone and the Reuss have their sources in these Alps. The Rhætian Alps extend about eighty miles east of St. Gothard, and give rise to many rivers. The Noric Alps bend round from the Tyrol towards the Gulf of Venice.

You have now some general idea of the situation of the Alps, which lie, for the greater part, just about midway between the equator and the pole, and which, in fact, are but a portion of an almost continuous chain of mountains which cross the south of Europe, beginning on the west with the Pyrenees in Spain, and ending on the east in the Balkan range of Turkey.

The Alps differ from most great mountain chains in Asia and America, by being intersected or divided by innumerable small valleys, instead of having table-lands or elevated plains. Many of these valleys contain a considerable extent of open land, which is remarkable for beauty and fertility, and which forms a singular contrast with the stern and savage surrounding mountains. Oak, birch and fir grow upon the mountains to the height of about 6,000 feet; and as far as trees grow rain falls in summer, but as trees disappear rain gives place to snow, till what is called the snow-line is reached, at about 8,000 feet, and then snow only falls, and beyond this is the regions of glaciers and everlasting snow.

Of the glaciers and avalanches, which are among the most striking features of Alpine scenery, a few words must be said before we pass on to Mont Blanc.

Glaciers, or *gletchers*, as they are called in Switzerland, are caused by the immense quantity of snow which from time immemorial has fallen, as well as from the continued descent of avalanches into the valleys, and which has become compressed by its own weight. The surface of this snow, having partially melted during the short summer, becomes frozen again in winter. If the ground on which the glacier was first formed be even, the surface of the glacier is nearly so too; but if rocky and broken, the surface of the glacier is the same. During winter, when frost has bound these icy masses in fetters stronger than iron, the most profound silence prevails; but as soon as summer approaches, and the air above them becomes warm, sounds are ever and anon heard, more terrific than thunder, which cause the very mountains to quake. These are the bursting of the wintry fetters. Huge fragments of ice are then split away and hurled down, awful chasms of an unknown depth open, and the icy mass is shaken as when an earthquake is at work. Again winter comes, and the scene of terrible and savage confusion is riveted again by frost. Waters flow for ever from beneath the glacier, caused by the under surface being melted by subterranean fires; and these form the head-waters of many beautiful lakes and some of the principal rivers in Europe. The margins of the glaciers are bounded by parapets or walls, called *moraines*, formed of roundish stones and pieces of rock, which advance with the glacier, if it advance, or are left behind, if it retire. These are caused by fragments of rocks, stones and frozen earth, which roll down the mountains to the edge of the glacier, and there are stopped. Many of these moraines are seen where no



AVALANCHE.

glaciers now exist, or at some hundred feet above them, proving that the glacier was formerly at that height.

The avalanche, the most terrible phenomenon of valleys lying in the midst of snow-covered mountains, is of very frequent occurrence in the Alps, owing to the extreme steepness of the upper regions of the mountains where the snow accumulates. When, therefore, the snow becomes too heavy for the slopes of these tower-like peaks to support, it slides down by its own weight, and falling into the valleys below, buries whatever they contain, forests, villages, men or cattle, and sometimes falling into rivers, interrupts even their course. There are various kinds of avalanche. The drift or loose-snow avalanche takes place when the lately-fallen snow of the upper mountains is suddenly put in motion by wind, and this kind generally occurs only in winter. The rolling avalanche, which is the most terrible of all, occurs at the end of winter or in spring. It takes place after a thaw, when the otherwise frozen particles of snow have become clammy, and stick together. A body of snow thus rolling down increases as it goes, like a huge rolling snowball, impelled by its own force, and growing larger and larger, it crushes or sweeps away all that comes in its way. Sliding avalanches take place after a long thaw in spring, when vast layers of snow become loosened from the earth and slide down the sides of the mountains, carrying all before them. Glacier avalanches take place only in summer, when portions of a glacier are loosened by the heat of the season, and hurled down with a sound like thunder.

The engraving on the opposite page represents the descent of the rolling avalanche, which has struck terror and dismay into the hearts of a mountain family, who, with their little flock, are flying for their lives, probably only to be overwhelmed by the terrible force which pursues them.

The greatest care is necessary in the spring to preserve the traveller or the mountain-dweller from the danger of the avalanche, as at that season the slightest cause, even the agitation of the air, may hurl it down. Often, therefore, a pistol will be fired in dangerous places, so that any masses which are likely to fall may be brought down before the traveller sets forth. In other places not a word is spoken, and the bells are taken from the horses' necks, that the air may remain perfectly still.

In the year 1820, an avalanche proved fatal to three of the guides who were attending Dr. Hamel, a Russian physician, and two English gentlemen in the ascent of Mont Blanc. "Suddenly," says one of the surviving guides, who relates the incident, "I heard a rushing sound, not very loud, and the same moment the avalanche was upon me. I felt my feet slide from beneath me, and saw the three first men fall on the snow with their feet foremost. As I fell, I cried out, 'We are lost!' I tried to support myself by planting the ice-pole below me, but in vain; the weight of snow forced me over, the pole

slipped from my hand, and I rolled down like a ball into the mass of loose snow. At the foot of the slope was a yawning chasm, to the edge of which I was rapidly descending. Three times I saw the light as I was rolling down the slope, and when we were all on the very edge of the chasm, I saw the leg of one of my comrades as he pitched over the crevice.

"I owe my life to a singular circumstance. Dr. Hamel had given me a barometer to carry, which was fastened round my waist by a strong girdle. I fancy that at the very moment when I was about to fall into the gulf, the barometer got beneath and across me, for the girdle suddenly broke, and I made a sort of bound as I fell, and so, instead of following my poor comrades, I was pitched over into another crevice close to the one in which they were killed. This second chasm was partly filled with snow. I fell about fifty feet, and alighting on a soft cushion of snow was a good deal covered with it. I suppose, before tumbling into the chasm, that we slid down 150 or 200 feet; but I cannot tell, for it seemed not to be above a minute from the time I heard the avalanche till I found myself lying in the narrow crack."

When this man was asked what were his thoughts during his fall, he replied, "Whilst I was rolling I said to myself, 'Farewell, my wife and children!' and I asked pardon of God for all my sins."

"On coming to myself," continued he, "I was better off than I expected. I was lying on my back, with my head resting against the icy walls of the crack, and could see some light and a little of the blue sky through two openings above my head. I was greatly afraid some of my limbs were broken, but I had sunk into a mass of soft snow, and was only buried. In a few moments I contrived to get on my feet, and looking round me, saw a man's head a little above me projecting out of the snow. It was Marie Coutet, the head-guide. He was quite covered with snow up to the neck, his arms pinioned down, and his face quite blue, as if nearly suffocated. He called to me in a low voice to come and help him. I found a pole lying near, and digging round him, got him out of the snow that partly filled the crack, and presently saw David Coutet above, who was crying, and saying, 'My poor brother is lost!' 'No, he is here below,' said I. I then asked if the others were all safe? 'No,' he said, 'there were three lost—Pierre Carriez, Pierre Balmat, and Auguste Tairraz.' I asked if the gentlemen had received any hurt? He said 'No.' Then the guides helped us to get up on the solid ice; they threw down an axe to cut steps, and put down their poles, and so we got out.

"We all went to search for the three others; we sounded with our poles, we called them by their names, we put down a long pole into the snow, but all was in vain, we heard not the slightest sound. We spent two hours in this melancholy search, and by this time were well-nigh frozen, for the wind was bitterly cold, our poles covered with ice, and our shoes frozen as hard as horn.



MONT BLANC: FROM THE VILLAGE OF CHAMOUNI.

We were compelled to descend ; we hurried down in perfect silence, and reached the inn late at night."

This avalanche was supposed to be about 200 feet in height and 150 in breadth.

When avalanches not of very large size overwhelm men and cattle, the air which is contained in the interstices of the snow is sufficient to support life, and in the meantime the animal heat melts the snow, and they are released ; but when the avalanche is of large size, unless immediate help should be at hand, both men and cattle perish from cold.

It is impossible to give any adequate description of the grandeur and extraordinary beauty of the Alps. At the distance of from 60 to 100 miles the chain of the Alps may be seen in the horizon like piled up mountains or clouds of mother-of-pearl, their snowy sides presenting every variety of light and shadow, and their topmost peaks frequently tinted rose-colour and lilac in the rays of the setting or rising sun. The drapery of snow which covers these mountains descends from their summits 4,000 feet, which itself is the height of a lofty mountain.

The height of Mont Blanc is about 12,000 feet above the level of the sea, which is very nearly three English miles. For many ages it was considered inaccessible ; its formidable glaciers, its avalanches, and its everlasting snow, deterred even the goatherd and the chamois-hunter from daring its untried dangers. At length, however, Horace Benedict de Saussure, a professor of natural philosophy at Geneva, determined to accomplish, if possible, the ascent of this unknown elevation, that he might be able to make observations from its summit, as he had already done from the Jura and many other mountains. Accordingly he offered rewards to any who would discover a mode of reaching the summit of Mont Blanc, and this led to many attempts for several years, but without success. At length, in 1785, Saussure himself and another naturalist, attended by twelve guides, set out, but were obliged to return after having gained the height of 11,500 feet, owing to a fresh fall of snow, through which they could not pass. The next year, a party of guides themselves set out, and one of them, Jacques Balmat, when on the Dôme du Goûté, which was the point to which Saussure had advanced the preceding year, and beyond which the present party dared not proceed, lost his way, and was obliged to pass the night on the ice. The next morning, however, having discovered a path which he was convinced would lead to the summit, he descended, and, though a young and vigorous man, was soon attacked by severe illness, in consequence of the extreme cold to which he had been so long exposed. He was attended in his illness by Dr. Paccard of Chamouni, and in reward for his kindness promised to show him the way to the summit of Mont Blanc. Accordingly, on the 17th of August, 1786, the physician and his guide set out and passed the night on a

glacier. At four the next morning they again began their march, and toiling upwards amid inconceivable suffering from the coldness of the wind and the reflection of the snow, which almost blinded them, they reached the crown of the mountain at half-past six in the evening—the first human beings who ever stood upon its summit!—the whole population of Chamouni, who were deeply interested in their undertaking, now beholding them through their telescopes. The cold on the summit was intense; their provisions were frozen in their pockets and the ink in their inkhorns, and the mercury in Fahrenheit's thermometer had sunk to $13\frac{1}{2}$ degrees below freezing point. They could not remain longer than half an hour on the summit, and then commenced their descent, which was difficult, by their sight being so much affected by the snow. After a descent of four hours they rested for two, and then, a little after midnight, again set forth, and reached Chamouni by eight o'clock in the morning.

The news of this great achievement rang through the country, and soon reached Saussure, who determined now to accomplish his long-cherished desire. It was not, however, until the 1st of August in the following year that he set out, accompanied by a servant and eighteen guides, one of whom was, of course, Jacques Balmat, the Columbus of Mont Blanc. On August the second, about noon, they reached the summit, and again all Chamouni beheld them; the bells of the town rang, and there was a rejoicing as for a great victory. Saussure himself says, in chronicling this event: "My first regards were fixed on Chamouni, where I knew that my wife and her two sisters were with their eyes at the telescope, anxiously following my footsteps; and I experienced a pleasing and consoling feeling on seeing the waving of the flag, which they had promised to hoist when their fears on my account were at an end."

The first Englishman who ascended Mont Blanc was Colonel Beaufoy, six days only after Saussure; the next year a party made the attempt, but only one, Mr. Woodley, an Englishman, gained the summit, and that at a dear cost, for his hands and feet were frozen. Up to the present time about twenty successful ascents of the mountain have been made, Albert Smith, whose interesting and entertaining panorama of the ascent has familiarised it to thousands, having already made it twice. The only women who have performed this achievement, are an American lady and the sister of a guide, who made the ascent successfully last year, 1854, and were received on their return with triumphal rejoicing by the good people of Chamouni, to whom the mountain seems especially to belong.

Let us suppose, now, that you are about to join a party for the ascent of Mont Blanc. In the first place, you must select a number of good guides, and they will decide when it is proper to set out, because they understand the weather and other circumstances connected with the undertaking, better than you do. You must have good stout clothes to wear, and shoes well studded with iron



THE GRANDS MULETS.

nails, especially at the heels, stout gaiters, green veils and green spectacles, which are to defend your eyes from the glare of the snow. Blankets you must have, and a sheet for a tent, and a saucepan, in which to melt the snow for water to drink; a long rope to fasten all your company together, that, if possible, none may be lost; a hatchet for cutting steps in the frozen snow, and a ladder by which to cross clefts and chasms in the ice. All these things will be carried by the guides, as well as the provisions, which are of themselves no small quantity: perhaps two dozen bottles of wine, two or three bottles of brandy, a good number of loaves, several pounds weight of cheese, sugar, and lemons, and cold fowls, and hams, and cold meat, and many other things. Laden with these, besides your telescope, and barometer, and thermometer, and whatever other instruments you carry with you, you and your guides set out, each person with his alpen-stock in his hand, which is a pole about six feet long, with a spike of iron at the end, to assist him in climbing or descending the icy steeps.

We will suppose that you set out from the village of Chamouni: before long, therefore, you will pass the Glacier des Bossons, one of the five large glaciers which protrude their icy feet into this beautiful and fertile valley. Speaking of these glaciers, I must mention an incident which occurred to Saussure when, on his first attempt to scale the mountain, he crossed one of these, the Mer de Glace, beyond which was scanty pasturage for cattle, which were driven to it across the glacier at the commencement of summer, and tended through that short season by a herd. This herd, at the time of Saussure's visit, was a very old man, with a long white beard, clothed in a dress of calfskin, with the hair outside. He looked as wild as the place itself, and was astonished at the sight of strangers, the first whom he had ever seen. Saussure wished to give him something which he would like, and asked what it should be. The old man said he wanted nothing but tobacco, and of this Saussure, unfortunately, had none: he gave him, therefore, some money; but the poor old man was so disappointed, that he seems to have had no pleasure in the gift.

Leaving now the Glacier des Bossons, with its confused mass of icy pinnacles, you see the Aiguille du Goûté, and the huge bulk of the Dôme du Goûté shining like polished silver in the morning sun; and still higher, the snowy pinnacles of the Aiguille du Midi, its head covered with ice, and lower down with moss, heath, juniper, rhododendrons and other plants. As you advance vegetation disappears, and at length even the hardy fir-tree is left behind; before, however, this is the case you have collected fuel for firewood as you have gone along, which the guides carry with them. On you proceed, sometimes scaling blocks of ice, and sometimes following a narrow foot-track on the face of a perpendicular cliff, so narrow that you are compelled to walk sideways; and sometimes crossing cracks or crevices of immense depth, where, if the foot slip, you are inevitably lost. One of the

guides of a party ascending the mountain slipped into one of the crevices, and would have fallen, heavily laden as he was, but for the long faggots which he was carrying for fire-wood, and which, being too wide for the opening, held him up till he was rescued.

When you have passed the Aiguille du Midi, where it is probable you will halt for a little while to rest, you will arrive at the upper part of the great Glacier des Bossons, the foot of which you passed in the valley below, and which is so terrific in its grandeur that you will feel, if you have not already done so, that the ascent of Mont Blanc is no joke. The fissures or cracks in the ice are so vast and so deep, the awful and fantastic features of the scene are so continually changing, that a strange terror creeps over you spite of yourself. Now you will find yourself cut off, as it were, from further progress by an immense block of ice, which, however, must be passed by notches being cut in it, like steps, with the hatchet of the guides, and now encounter an awful chasm which must be passed in the same way. In our frontispiece you may see some of the perils of such a scene. But the passes of these icy ridges are not as dangerous as slender bridges of snow suspended over unfathomable abysses, and where, as the guides approach them, they cease to laugh and joke; moving on in profound silence, their eyes fixed on their feet, and each careful to tread in the steps of his predecessors, while ever and anon some scene is reached which leads to the recital of a terrible catastrophe; as, for instance, that of Eschen the Dane. This gentleman was crossing a glacier on the Buet with a single guide; the surface appeared so smooth that no danger was apprehended, and, full of ardour, he rushed onward in advance of his guide, when, all at once, he suddenly disappeared. The guide ran forward, and, to his inexpressible horror, saw a circular opening like the mouth of a well. Eschen had fallen through a thin crust of snow into a deep chasm, and no further trace of him remained. The guide hastened back to the nearest habitation, and brought assistance and ropes; he was lowered into the gulf, and, at a great depth, found the remains of the unfortunate young man fixed upright in the chasm, frozen firmly to its icy walls. The heat of the body thawed at first the ice, which had afterwards frozen in the body, so that it was very difficult to remove it. It was removed, however, and buried near Servoz.

Passing over the glaciers you will hear a singular sound, occasioned by the murmuring of water in their interior, as if water at a very great depth were forcing its way through narrow channels. Here and there these rivulets are visible, the water clear as crystal, and of course icy-cold.

Without lingering on further difficulties and dangers we will suppose you now arrived at Les Grands Mulets, where you are to spend the night, and which does not seem a very tempting place for that purpose, as you may conceive by turning to the cut which you have before you. The name of Grands



SNOW-BRIDGE AT THE GRAND PLATEAU.

Mulets is given to these rocks from the fancied resemblance which they bear to a team of mules; and a wilder, drearier place to pass a night in cannot be imagined. A rude shed of rock has, however, been erected within the last year or two on an uneven ledge, of about twelve feet long by five wide, under one of the rocks, which forms a solid natural parapet, while a low wall of a few inches high, composed of loose stones, edges it in from the three other sides. A magnificent scene is, nevertheless, around you! The sky above is of the deepest blue, and the serene and clear atmosphere enables you to see every object distinctly; masses of ice and snow of unimaginable grandeur; valleys laying low and smiling in verdure; distant lakes like sheets of silver, and the distant mountains of the Jura range. Bringing the eye downwards, and just in front, rises the Dôme du Goûté, a vast cupola of unbroken whiteness; to the right of which springs up the Aiguille du Goûté, a mass of rocks rising from a belt of snow, and to the left, the highest summit, the mighty Mont Blanc, yet looking here scarcely larger than from the valley, but cast further back in solemn seclusion by its subject domes and spires. Below, you may trace the footprints of your party, and beyond, and far below, as in the bottom of a well, the broadest part of the valley of Chamouni, whence you started in the morning, with its little yellow patches of fields and white houses as small as toys, above which rises the black mass of Brévent, and beyond that the still mightier rocks of the Aiguille Varens, couched like a lion in the deep blue sky, while to the left the huge top of the Buet, on the glacier of which poor Eschen the Dane was lost, walls in the prospect. Such is the view in front, and, if you have nerve enough to creep round the rock which rises behind your resting-place, you will see another great snow-valley, beyond which lies the one you have crossed; a scene, if not as grand as that in front, yet more terrific.

As you regain your seat a scene of a new character and of surpassing beauty, as described by Mr. Albert Smith, will present itself. "The sun drops behind the Aiguille du Goûté, and, for awhile, every object, sky, mountain and lower peaks, become burnished gold. As twilight steals over the lower world the glow becomes still more vivid, and presently, as the blue mists rise in the valleys, the tops of the mountains look like islands rising from a filmy ocean— islands of gold. By degrees this golden lustre becomes softened into tints of colour; first orange, then transparent crimson, rising up from the horizon in the regular gradation of rainbow hues, until the sky above is deep blue, and that of the east glowing violet. The snow reflects the colours of all these changes, and every portion upon which the light falls is tinged with pale carmine. These beautiful hues grow brighter as the twilight increases in depth below, and it now comes marching up the valley of the glaciers until it reaches your resting-place. Higher and higher is the lovely glory of the summit

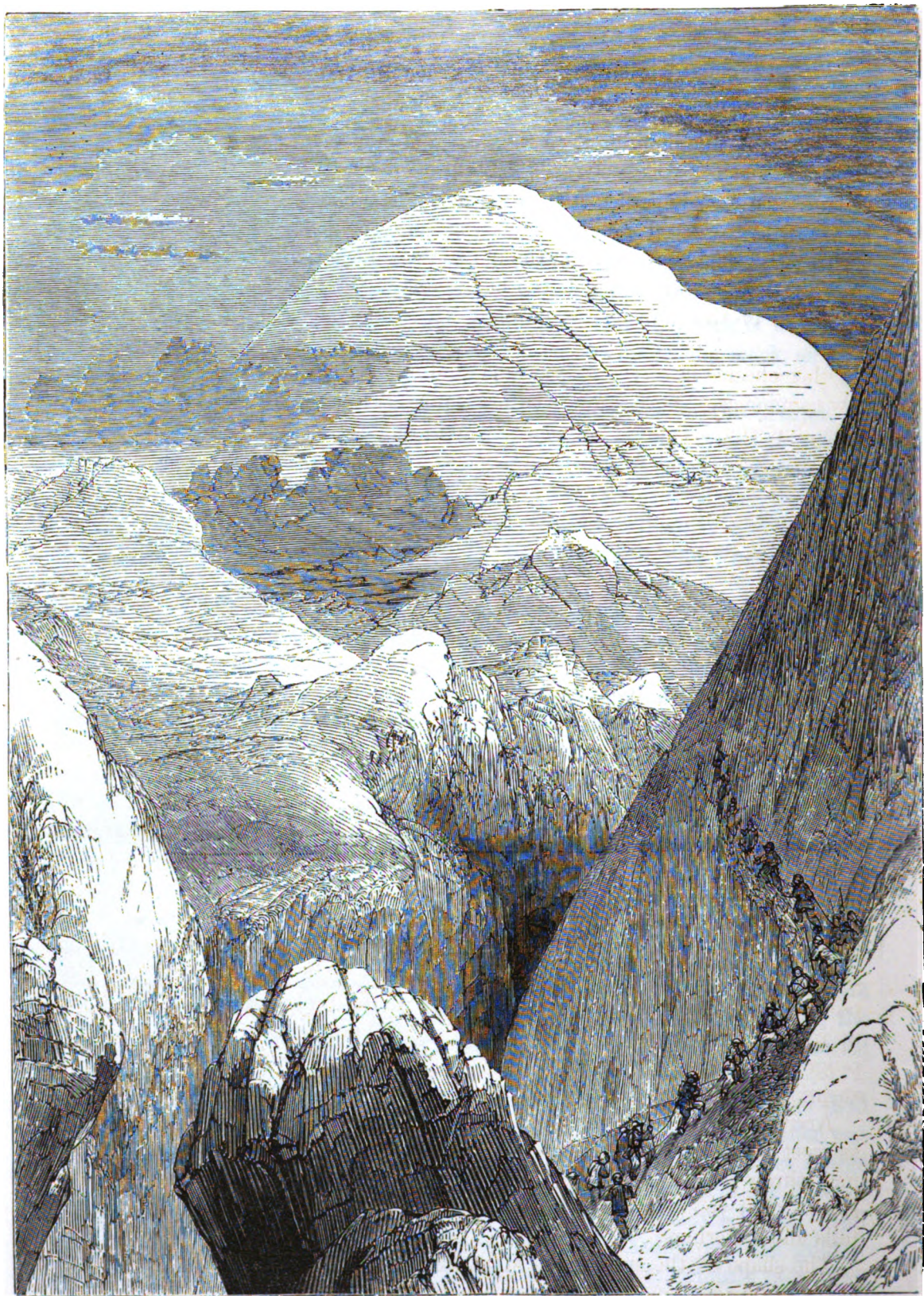
driven before it, until, at last, the huge dome of the Goûté and the summit of Mont Blanc itself stand out ice-like and grim, though the horizon still glows with rosy light."

And all this lavish display of beauty had been made for thousands of years, amid these deep solitudes of the mountains, before the eye of man beheld it, and received it into his soul as a hymn to God! But the Creator pours out the affluence of beauty amid the wilderness, where man is not, more freely than in the crowded city, for He needs not spectators; and His work is ever good and great, and should serve as an ensample to us to make our work as good and perfect as in us lies, for the glory of God alone.

And now, while your souls have been lifted in praise to the Creator, the busy guides have lighted a fire; the evening meal is spread; you eat and are refreshed, glancing the while at the glory of heaven and earth, and then sink to sleep amid the blankets as best you can. After three hours' rest, you again rise and prepare for the journey, the stars shining brilliantly above, a new scene of beauty, until gradually paled by the ascending sun, whose rays are earliest caught by some snowy peak.

We now suppose you advancing in good spirits towards the Grand Plateau; but the ascent is no way easier than it was yesterday. Icy masses have to be surmounted, and terrible chasms crossed, ere you gain this valley, or frozen lake, the Grand Plateau, which is about a league in length, and enclosed on three sides by Mont Blanc, the Dôme du Goûté, and the Aiguille sans Nom. Vast numbers of avalanches fall upon the plateau, especially from Mont Blanc. The great Glaciers des Bossons and de Tacconnez have their origin in the plateau. An icy precipice forms the junction of the former with the plateau, and an awful crevice that of the latter. Perhaps in this part of your ascent you may find yourself crossing a snow bridge sustained on a platform of ice, as in our illustration; perhaps, like Mr. Auldjo, a gentleman who made the ascent before you, you may have wandered along the edge of the precipice, and seen how immense was its depth, may have noticed the layers of ice, varying in colour from deep bluish-green to silvery whiteness, and all the long clear icicles in every little break of the icy wall. And, of a surety, your blood, like his, would run cold at the thought of this frail bridge giving way, and all being precipitated into the awful wintry gulf.

But no fatal accident occurs, and now, leaving the Rochers Rouge, or Red Rocks, at the foot of which the route used to lie, until 1827, when a safer was discovered, you advance slowly onward. The old route by the Rochers Rouge was dangerous from the frequency of avalanches. It was here that the disaster occurred to the three guides of Dr. Hamel, as we have already related. And now, perhaps, you and your party, like our friend Mr. Auldjo and his guides, may have a providential escape. They were slowly and laboriously ascending



MUR DE LA CÔTE.

the face of an icy mountain, on the new route, as you may now be doing, and just congratulating themselves on having overcome this difficulty, when, all at once, a sound was heard, which filled every heart with unspeakable gratitude. It was the fall of an avalanche, at the very moment when they must have been passing had they been on the old route. It fell with a crash louder than any thunder, and which shook the mountains to their foundations, while nearly the whole of the plateau was covered with huge blocks of ice and masses of snow.

Other chasms have yet to be passed, and other difficulties and other sufferings now commence. You reach what are called the *Dernier Rochers*, the highest rocks, but you are now so exhausted that you can scarcely rejoice in having done so. You would lie down and sleep, very likely, if your guides would let you. A far more magnificent spectacle of mountains and distant scenery than you have yet beheld lies below and around you, but you do not care for it. A strange and painful effect is perceived through your whole frame, caused by the thinness of the air at that great elevation; your skin becomes dry and your thirst intense; the reflection of the sun's rays on the snow affects your eyes most painfully, and you put on your green veil and green spectacles; your face also becomes scorched by the heat, you throw off all unnecessary clothing, you can speak only with difficulty, and when you do so, your own voice startles you, it seems so thin and distant.

But, courage! you are now on the *Mur de la Côte*, and this once passed, Mont Blanc is before you! It is no easy task, however, to scale this *Mur de la Côte*, this almost perpendicular iceberg,—but again we say, Courage! Steps are cut in the face of the icy mountain with the axe, and one after another is pulled along, or even sometimes carried by the guides. Perhaps you may be, in the end, helped on by the device of Mr. Auldjo's guides, two of whom proceeding in advance twelve or fourteen paces, fixed themselves firmly in the snow, and then pulled at the rope which was fastened round his waist; he, tired as he was, ascending with long strides, pulling the while the rope in, and they pulling him towards them, so that he was partly drawn up and partly he ran up in a zig-zag direction. And thus, like him, taking very little notice of the progress you are making, you may at length find yourself, to your great surprise, on the very top of Mont Blanc.

Arrived here, even to your own surprise, you will, however, most likely feel, as most climbers of Mont Blanc do, too much exhausted to rejoice, and probably may throw yourselves in the snow, and for a few minutes sink into profound sleep. But you will awake refreshed, and then obtain the reward of all your toils and sufferings.

The shape of the summit of Mont Blanc has been likened to the back of an ass, the broadest and highest part being towards Chamouni. Mr. Auldjo com-

pares it to a pear cut in two and laid on its flat side; it is about 170 feet in length and 50 at its greatest breadth. The hard snow of which it is composed, resembling a mass of crystal beads, appears to be of a depth of from 200 to 300 feet, upon a rocky foundation, which very likely may be a cluster of pinnacles similar to the Dernier Rochers, some points being visible through their snowy covering near the summit, although from their situation they are inaccessible.

Dr. Barry, another climber of Mont Blanc, says that the actual range of sight from the summit, although shut in by Alps in various directions, comprehends nearly all Sardinia, the western half of Switzerland, one-third of Lombardy, and an eighth of France.

Nobody remains very long on the summit of the mountain, and the descent presently begins, which, though much easier than the ascent, is not without its difficulties. To the guides it appears easy enough; as, placing their feet close together, and guiding themselves with their batons, they glide down the icy mountains; but this does not suit the traveller who never was on these icy mountains before. Another mode we will give from Mr. Auldjo's description.

"I was desired to sit behind one of the guides, as close as possible to him, and to put my legs round his body, my feet over his thighs, and my hands over his shoulders. Thus placed, I kept fast hold of him, and away we both glided at immense speed, he making use of his pole as a kind of rudder to guide our course, and moderating our speed by plunging his feet into the snow. This was a sort of Russian mountain-sport on a grand scale. It often enabled us to shorten our route by altering it for the opportunity of thus sliding down any declivity we met, and by this means passing in a moment over tracts which had taken us an hour to climb. It excited merriment, too, from the tumblings and rollings which occasionally occurred. Those who were sliding down less rapidly were often overtaken by those whose speed was greater, and both were upset and rolled down together for some time before all could be set right again. When crevices were near, however, no jokes were practised."

Well, having come down the higher snowy and icy ranges by one means or another, you again reach the various old points where you slept and rested on your ascent, and full of joy in the accomplished enterprise, though tired, as you think, almost to death, you arrive at Chamouni in the evening, amid the congratulations of the people, having your life enriched by a great event—the ascent of Mont Blanc.



TIGER ATTACKED BY A BOA CONSTRICTOR.

SERPENTS AND SERPENT CHARMERS.

THERE is no doubt but that God intended his animal creation to be types and examples to us, both of that which we must imitate and that which we must shun. The horse is an example of generous activity and good will ; he labours cheerfully without complaint, and never returns evil for evil. The dog is full of cheerful activity also, and appears to look up to man as his ideal of a superior being ; he is capable of the most enduring affection, but, unlike the horse, he often resents an injury, returning sometimes a bite for a blow. The elephant is ponderous and slow, gifted with immense strength and great sagacity. The monkey is agile and sharp-witted, full of mischief and grimace ; he is like a little sham human being, as if it were intended to show us, through him, what we should be if we had no souls. The lion exhibits great strength, united to a fierce and cruel temper, and typifies the great tyrants of mankind. The snake is very different to any of these ; fierce and cruel, and agile and strong, it comes with a wily, stealthy, gliding motion, like a lurking and cunning enemy ; we know not why exactly, but let the snake be as beautiful in colour as he may, and as graceful in his movements, we cannot help shuddering at sight of him, and feeling an instinctive horror, as if his presence were that of the Evil One. The snake typifies to us vice of every kind, cunning, creeping vice, craft and cruel malice, and the better instincts of our nature shrink from it.

Rebellion and disobedience crept into the Garden of Eden under the semblance of the serpent, and God has placed the serpent in his beautiful creation as a symbol to us of that which we must shun.

Of serpents there are many varieties, some venomous and others not so. All the venomous serpents bring forth their young alive, whence they are called vipers, which is a contraction of the Latin word *vivipares*, or living when born. The venom of the snake is a fluid secreted by a gland under the eye, and which is conveyed by a small canal into a fang or pointed tooth pierced with a little hole, by which the venom issues into the wound caused by the serpent's bite, and which is more or less fatal according to the species. When the serpent is peaceably inclined, this terrible poison-fang lies concealed in a fold of the gum.

Many of these deadly serpents have heads very broad behind, and jaws that open to an immense width, and all have a round tongue that can extend itself to a great length, vibrates rapidly, and is divided at the tip. They have cruel and ferocious countenances, which exactly indicate their character.

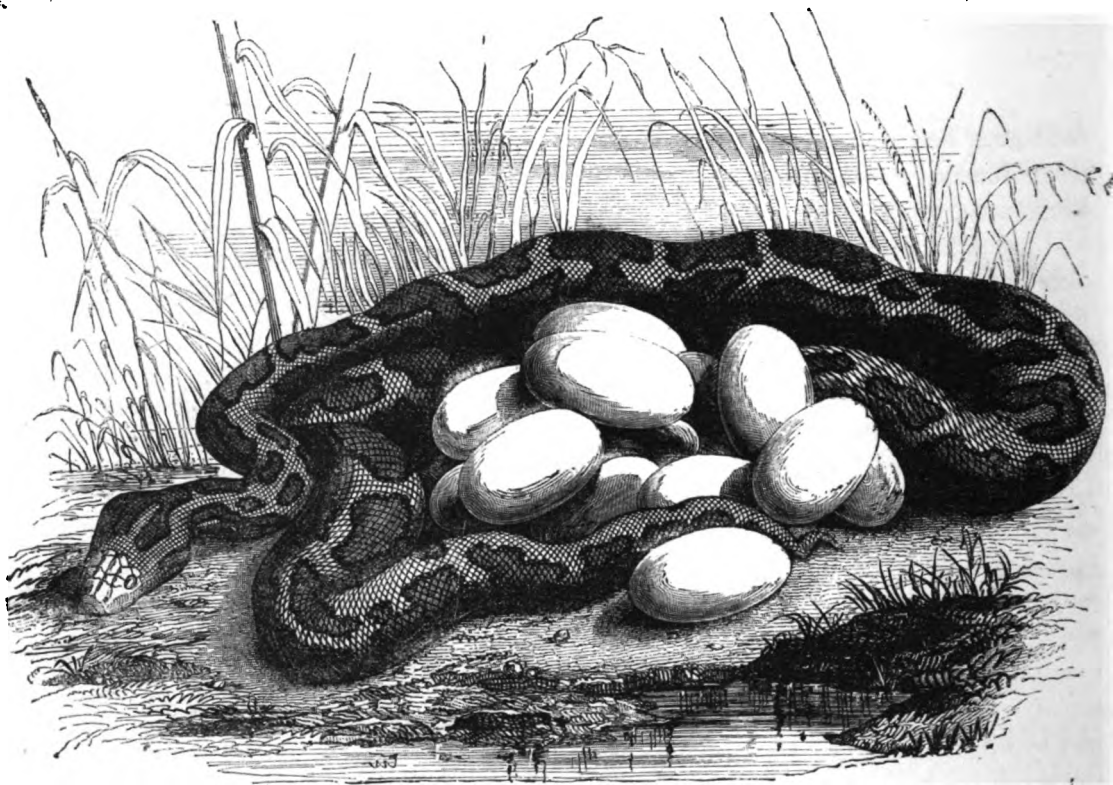
All serpents moult or change their skin, and the skin, or slough of the snake, as it is called, may frequently be found among the dry grasses of our English fields, the snake having crept among them to aid itself in getting rid of its old garment. The skin is first loosened from the head, and is slipped off backwards, so that it is left completely turned inside out, like a glove. It is often found so perfect that even the scales of the eyes remain like a tiny pair of spectacles; and as the skin is some little time in loosening before it finally detaches itself from the body, it is supposed that the sight of the snake must be dim before this takes place.

THE GREAT SNAKES OF INDIA, AFRICA, AND SOUTH AMERICA.

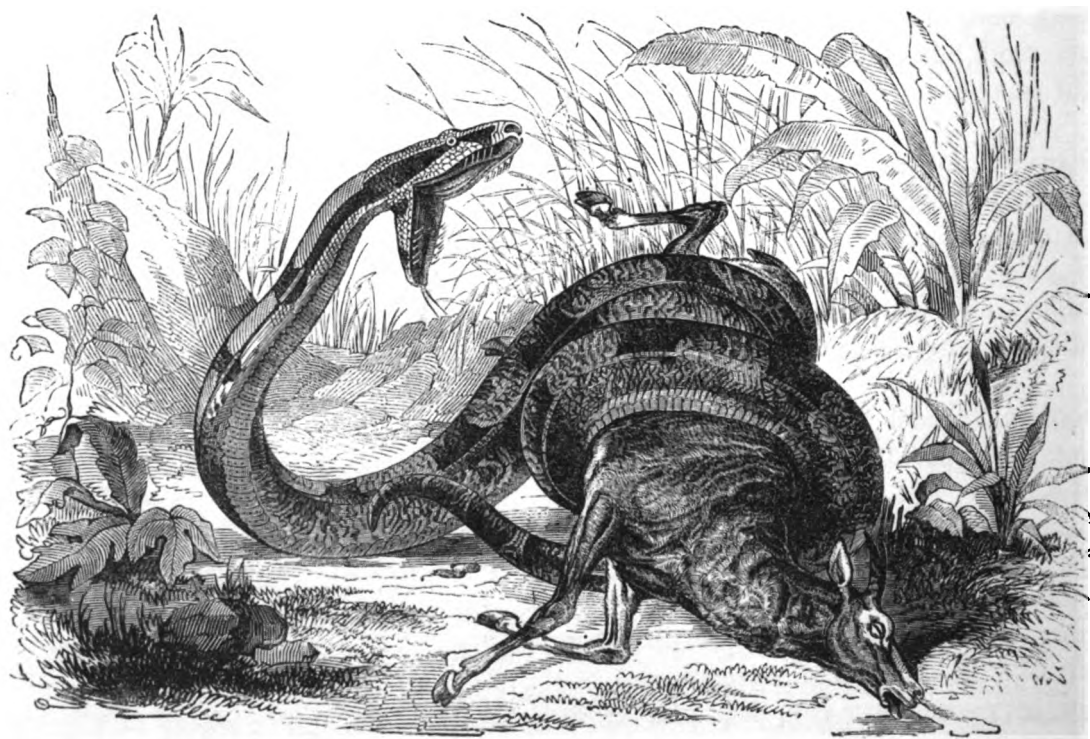
Boa is the family name of a number of serpents in the hot regions of Asia, Africa, and South America, the Pythons of India being a very near relation. These serpents, though not venomous, are quite as terrible from their great size, their muscular power and their mode of attack. Both the Boas and Pythons are very beautiful in colour and markings, and glitter in the sun like gold and gems.

Though without poison-fangs, their teeth, of which they have four rows in the upper jaws, are very terrible, and produce dreadful wounds; the neck is slender, the size increasing towards the middle, and decreasing again to the tail. Their tails are furnished with two hook-like claws on the under side, by the help of which they take firm hold on a tree or branch, and which afford, as it were, a fulcrum, while they put forth all their terrible power against their victims.

In the ancient classical times, the Boa was as much dreaded as now. Aristotle, an old Greek writer, describes these serpents as inhabiting the deserts of Lybia. Boas are represented by Virgil, as well as by one of their old sculptors, as crushing in their tremendous folds Laocoon and his sons, a cast of which you have very likely seen carried about for sale, or in the cast-shops. One terrible serpent of this kind, which had its lair near Utica, on the banks of the Bagradas, is said to have terrified a whole Roman army under Regulus. Pliny, the Roman historian, describes this monster to have been 120 feet long, and says that after it was killed its skin and jaws were preserved in a



INCUBATION OF THE PYTHONESS.



THE BOA CONSTRICTOR.

temple at Rome. The Pythons are described as being thirty-six feet in length, and are said to have had such a width of jaw and throat as to swallow entire swine, and to strangle a man or any large animal in their tremendous folds.

If these fearful monsters are not now so large or so numerous as in those remote times when the world consisted of more extensive deserts, the nature of neither Boa or Python is by any means changed. It is just the same terrible and cruel beast as ever, lurking in ambush and darting upon its unsuspecting prey, which it encircles in its close folds and crushes to death.

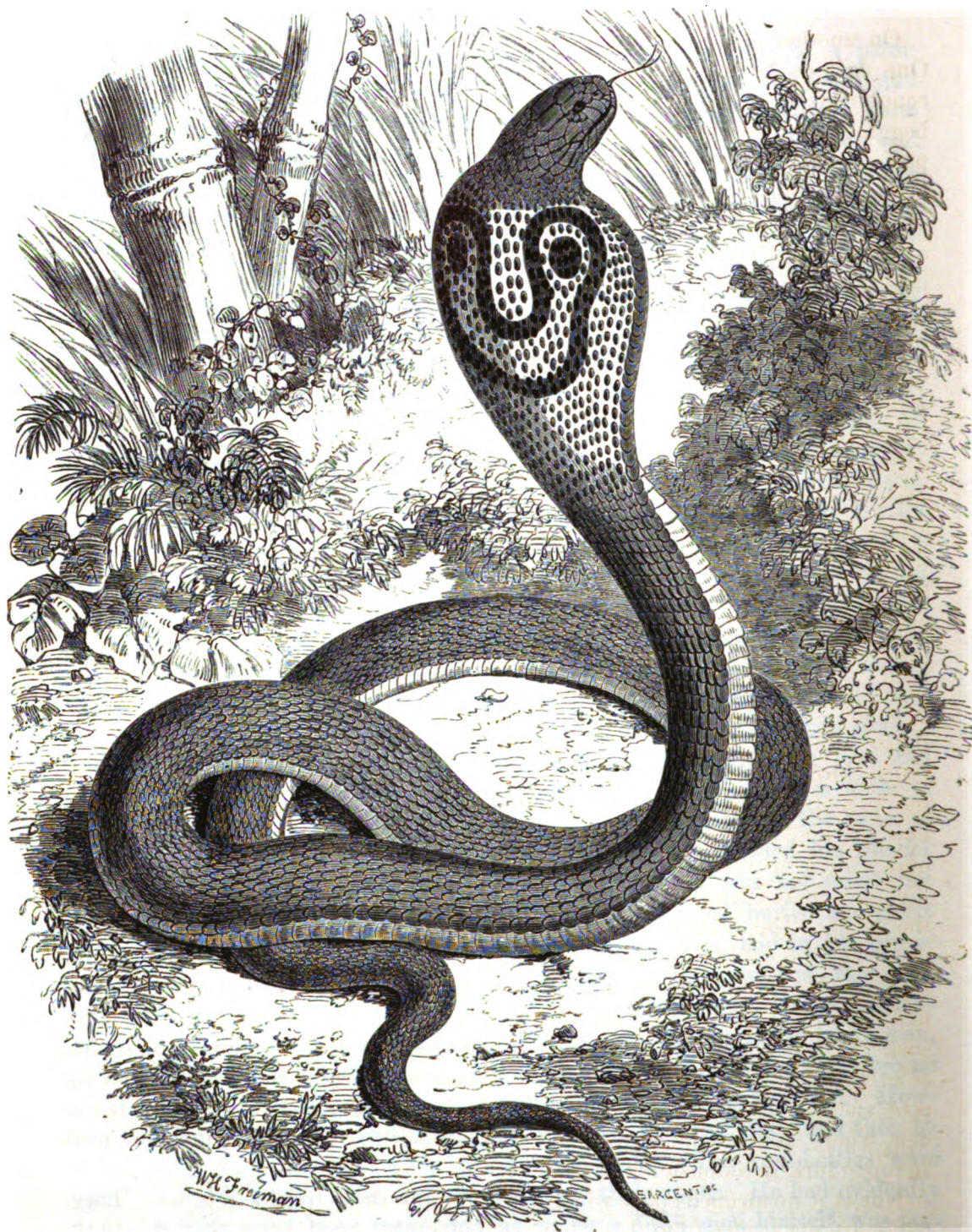
Mr. M'Leod, commander of the ship *Alceste*, and who was for some time in captivity at Whydah, in the kingdom of Dahomy, describes Pythons of thirty-two feet long, and which swallowed animals much larger than either goats or sheep. Governor Alison, who had resided thirty-seven years at Fort William, one of the British colonies in Africa, related to him many combats which he had seen between these snakes and wild beasts, or cattle, and in which the snakes always came off victorious. This gentleman had a negro herdsman, who, however, managed to escape with his life, though he was ever after lame. The narrative is as follows: One day, when in the forest, he was suddenly attacked in the thigh by one of these monsters, but, most fortunately for him, the snake itself got entangled with a tree, and the man, being thus saved from compression by the snake, which would otherwise have rendered him immediately powerless, had the presence of mind to take out a large knife which he carried with him, and to cut deep gashes about his enemy's head and throat, thereby killing him, and releasing himself from his frightful situation. He never, however, recovered the use of his leg, which was injured by the sharp teeth of the reptile and the force of his jaws.

While we are speaking of Whydah, I must tell you that this dreadful snake is considered by the ignorant people of that part of Africa as their fetish or deity. "The snake-fetish-house of Whydah," Mr. Forbes tells us, "is a temple built round a huge cotton-tree, in which are at all times many serpents of the Boa species. These are allowed to roam about at pleasure, but if found in a house or at a distance, a fetish man or woman, whose duty it is to induce the reptile to return, reconducts it to its sacred abode, whilst all that meet it must bow down and kiss the dust. Morning and evening great numbers of people are to be seen prostrated before the door, but whether worshipping the snakes directly as a god who is known under the name *Seh*, through these his representatives, we cannot say." To kill any one of these fetish-snakes is death.

It was most probably at Whydah that an English gentleman of the name of Jackson very nearly lost his life for this great crime, as it is there considered; and as the story is curious, I will relate it to you. He was engaged in the purchase of palm-oil, which is a great article of trade in that part of Africa, and

he lived in a hut some little distance from the town, on the edge of a palm-forest. Being fond of keeping poultry, he had vast numbers of fowls and ducks and turkeys; they were great favourites with him, and he visited them continually. In a little while, however, they began to disappear; first one and then another; now chickens, now ducks, but especially his turkeys. This was a great trouble to him, and he set his African servants, of whom he had a considerable number, to watch his poultry-yard and detect the thief. For some time nothing could be made out, but still they disappeared, until at length he had only one turkey left. And now his servants came running to him; the thief was discovered; it was a huge Boa, one of the fetish or great Ju-ju snakes, as they were called. To kill the monster was death, he knew, but still he could not allow him to feed on his last turkey; and therefore solemnly swearing all his servants to secrecy, and it being now the dead of night, they all issued forth with torches and with fire-arms and knives to attack the enemy, which they did so successfully that before long he lay dead before them. After this they took and buried him under an adjoining palm-tree, two bottles of rum being laid with him in his grave as a mark of respect, as if he were a great king, and this was done in case of any trouble arising from his having been killed. The dead turkeys being thus avenged, Mr. Jackson went very comfortably to bed. I said that he solemnly swore all his servants to secrecy; one of them, however, a lad who belonged to another tribe, would not be so sworn, and no sooner was the monster killed and buried, and the Englishman in bed, than the boy set off to the town to give information of what had taken place.

In the very early dawn, therefore, Mr. Jackson was awoke by a loud and angry tumult of people approaching, shouting and yelling, with a noise of drums and tom-toms, and all that savage uproar which indicates the anger of an African populace. They surrounded his hut, and demanded his life for that of the great Ju-ju snake which he had killed. It was not much use reasoning with them; nevertheless he told them that he had buried the great Ju-ju snake with proper honour, and that rum-bottles were laid in his grave. They would not believe him, and hurried him along to the palm-tree, that they might see with their own eyes. He was in a terrible case; it was death to kill the Ju-ju snake, he knew, but still the African looks upon the white man, with all his superior knowledge and power, as a sort of Ju-ju man, therefore no doubt they would fear putting him to death as much as a Ju-ju snake. However, a palaver was held, and it was decided that he must die; and then he stood under the tree while they dug up the snake. The rum-bottles were found as he had told them, and this appeased their anger. He had evidently honoured their great Ju-ju snake, and he being a Ju-ju man himself, was permitted to live; but so great was his offence, nevertheless, that for twelve months all intercourse with him was forbidden.



THE COBRA DI CAPELLA.

On another occasion, he also offended them about their great fetish snake. One day, as he was returning to his hut, his black servants met him with countenances of great joy, telling him that an old man was there, and begging him not to enter. He supposed that some old priest had taken possession of his hut, and went forward, spite of all their efforts to keep him back, and when he entered what should he see but a huge Boa coiled up asleep under his bed. This was the old man that they spoke of, and as it is reckoned a great honour and a cause of good luck for one of these fetish snakes to take possession of a dwelling, they now besought of him not to disturb it. He, however, thought that the sooner he could get him out the better, and therefore, instead of killing him this time, took a bucket of cold water and threw over him, on which he quickly retreated, and in consequence of which he himself was again very coldly looked upon by the townspeople for some time.

So much for the great fetish snakes of Whydah.

The Boa-constrictors of South America are equally formidable with those of Africa; they frequent hot morasses, the banks of rivers, and the tangled undergrowth of forests. They are described by an author, from whom we will quote a few passages, as being frequently seen floating in the water, concealed amid the beautiful flowers and leafage of the forest, with the tail grasping some neighbouring branch or tree, watching for their prey. The footsteps of a deer, perhaps, are heard as it approaches to quench its thirst; the snake raises his head, glances upon his prey, then instantly lowers and prepares for attack. All is silent; the creature stoops to drink; suddenly, like a flash of lightning, the snake darts upon it, the water is lashed into foam, a cry of pain and terror rings through the forest, and all again is silent. The animal is quivering in the coils of the mighty snake, and life is soon crushed out of him. The monster now gradually unfolds his twisted form, and prepares to gorge his prey. He glides round it with glaring eyes, ever and anon he touches it with his quivering and forked tongue, and soon begins to draw it in, beginning first with the head. The mouth drips with a glutinous or sticky saliva; the jaws are distorted, the working of each is visible, and also the muscles of the head and throat. The skin of the neck is stretched, and appears as if it would burst the next instant; yet still the operation goes on. So much occupied, in fact, is the snake, that he appears to take notice of nothing, and may be approached, struck, or even wounded, without ceasing his laborious efforts. By slow degrees the poor victim is at last invisible, and the bloated monster quickly seeks his lair or den, where he lies in a torpid state for a month or so, and then comes forth again to lurk in ambush for another victim.

Nor is it quadrupeds only which fall a prey to these terrible reptiles. Large fishes are not secure from them, but are frequently seized, when they rise to the surface for a moment, and dragged on shore. Monkeys, too, as they gambol

about in the forests, are often snapped up as a tiny and delicate morsel. Nothing, in fact, which is within the range of their tropical wilderness is safe from them. They swim, they climb, they swing to and fro, like some huge vegetable creeper, from a branch, and their victims are not aware of their presence until they find themselves in their terrific power.

These frightful monsters must have been worshipped in the old times in South America, as they are now in Africa, for Bullock, the Mexican traveller, describes a specimen of the great serpent-idol which he saw, and which was very perfect and of beautiful workmanship. Hernandez, an old Spanish author, describes serpents which the Spaniards saw when they first took possession of Mexico, and which were strong enough to overcome five men. He also states that he had seen serpents as thick as a man's thigh, which had been taken when young by the Indians and tamed, and that they lived in casks full of hay, whence they only came forth to be fed; and that they were so quiet, as to climb the shoulders of their keepers, who were not afraid of this terrible serpent embrace, and that when lying coiled up, equalling in size a large cart-wheel, they received the food which was offered them.

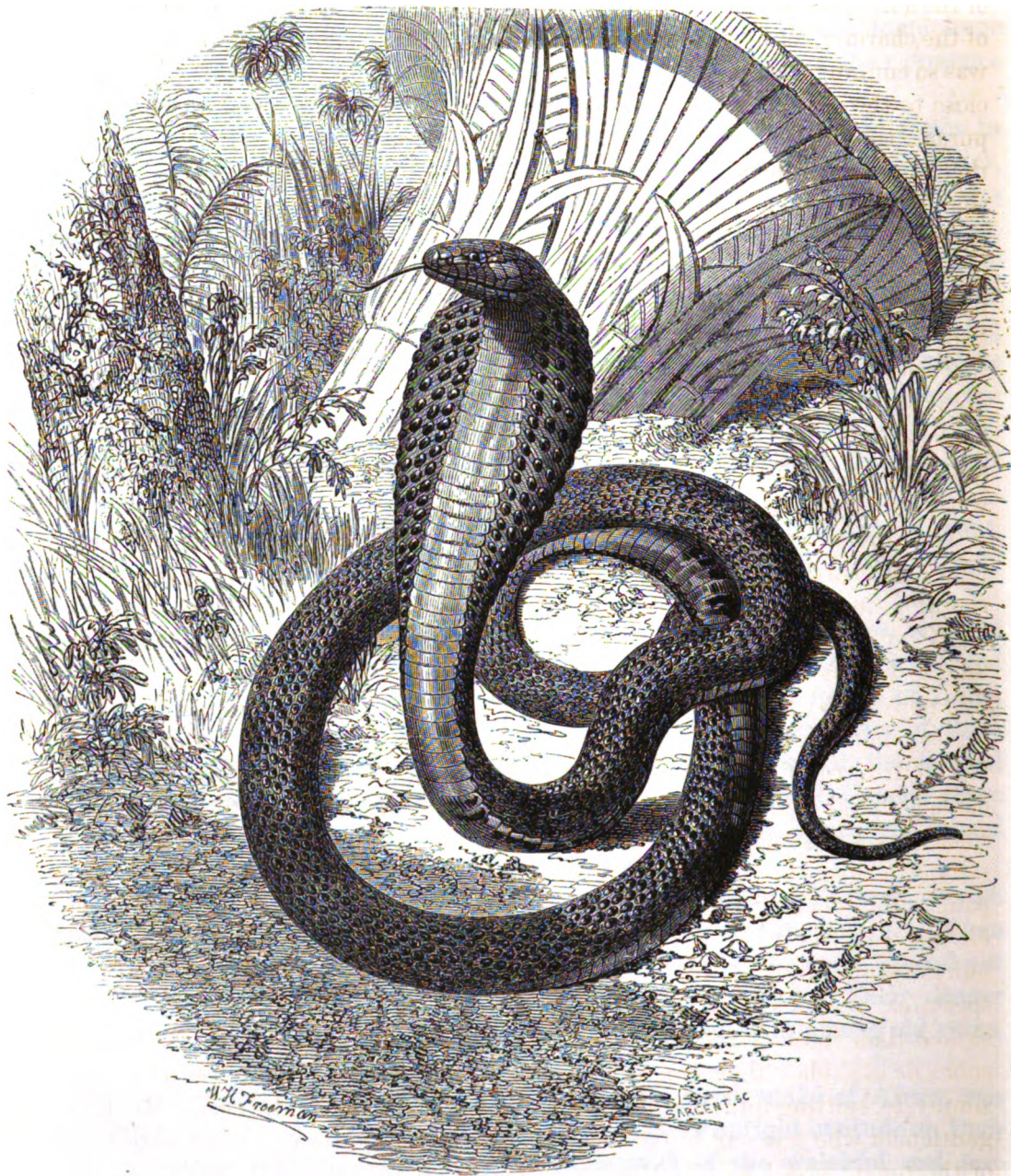
The Anaconda is the Python of Ceylon, and is a terrible and huge serpent, similar in its habits to those of South America, which we have already described.

Another great serpent-family which belongs to the venomous class, is called Naia or Cobra, and is found only in the Old World, as India, Syria, Egypt, and Africa. Of this family is the well-known Cobra di Capella, a native of India, and the Naia hajé, Cobra or Asp of Egypt. The great peculiarity of these snakes is the power which they possess of expanding the skin at the back of the head, which is called the hood, and on which in the Cobra di Capella there is a singular black mark, something like a pair of spectacles, which has caused this species to be called by some the spectacled-snake.

The Cobras are no less fierce and terrible than the Boas and Pythons, though they are much smaller in size, seldom exceeding six feet in length. When angry they raise themselves on the tail and lower part of the body, spread out their hoods, hiss fiercely, and dart furiously on their enemy. Their danger consists in their poison fangs. They are principally met with among old ruins, fallen trees or logs, and crumbling walls.

The Cobra, like the Mexican Boa and the great fetish snake of Africa, was considered sacred by the Egyptians. Sculptured in its upright attitude on their temples and sarcophagi, it was meant as a symbol of the watchful and protecting diety. Cleopatra, Queen of Egypt, as you have probably read in history, caused her own death by allowing herself to be bitten by a poisonous asp.

From ages immemorial a peculiar race of men, called snake-charmers, have existed in those countries where the Cobra is found. These snake-charmers are



THE COBRA DI CAPELLA.

mentioned by pagan writers and also in the Scriptures. David in the Psalms speaks of the adder, the asp or cobra, "which closes its ears and becomes deaf to the voice of the charmer, let him charm never so wisely." The old story was, that the serpent was so cunning, that when he heard the voice of the charmer, he laid one of his ears close to the ground and stopped up the other with his tail. The snake-charmers pursue to this day their occupation in India and Egypt, and have exhibited their power or tricks even in this country. These men are said to draw the snakes out of their holes by peculiar musical notes, which seem to have the power of fascinating or attracting them. When the snake is under their influence, the poison fangs are extracted, so that the creature has then lost its power of injuring. Colonel Briggs states that, to this day, these cobras are kept by the priests in the temples, and fed by them with milk and sugar, and that they will feed out of the hand like any other tame, domestic animal. Herodotus, the old Greek historian, mentions, that in his time tame serpents were kept near Thebes, consecrated to Jupiter; that they did nobody any harm, and that when they died they were buried in the temple of Jupiter. These serpents were a small species of the *Cerastes*, or horned snake.

The Indian jugglers or snake-charmers, frequently exhibit their tricks at fairs and festivals in India; and it is said that they can even do this while the reptile is in possession of his poison fangs, making him go through all his movements, in the upright position peculiar to this species, to the music of a small flute. This is called the Cobra di Capella's dance, but how the jugglers obtain this power over the venomous beast is not clearly known. Some say that before the commencement of the performance, the serpents are made to bite pieces of red cloth until all the venom is exhausted; and, in order to train them to the dance, that the jugglers cover their hands with a jug, and then irritate the snakes with a small stick, and that when they attempt to bite, the jug is presented to them, and striking against it violently, they cause themselves great pain. But whatever the mode of treatment is, the Cobra may be seen following for hours the head and hand of the charmer, always appearing ready to strike, but prevented from doing so by some spell or power in the man, which, to the spectator, seems supernatural. The serpent-charmers of Egypt are not less skilled than those of India; they can make the terrible Naia hajé, the Egyptian cobra or asp, obey their commands, and assume a stiff and lifeless appearance, simply by spitting into their throats and pressing gently on the head. Mr. Hay, a gentleman who was sent to Laraiche, in the interior of Morocco, to procure a horse of the purest breed for her Majesty Queen Victoria, witnessed some feats of the Eisowy, or snake-charmers, which will, no doubt, interest you, and which I will give nearly in his words:—"The party of snake-charmers consisted of four natives of the province of Soos, three of whom were musicians, their instruments being long, rude canes resembling in form a flute, but open at both ends. On

these the performers blew, producing melancholy but pleasing notes. We invited the snake-charmers to show us their feats, to which they readily agreed. They commenced by holding up their hands as if holding a book, muttered a prayer to the Deity, and called upon Seedna Eiser, who is reckoned the patron saint of snake-charmers. After this the music struck up, and the snake-charmers danced rapidly round the basket which contained the reptiles. This basket was made of cane-work, covered with goat-skin. Stopping suddenly, the snake-charmer thrust his bare arm into the basket, and pulled out a large black cobra di capella, which he twisted round his head like a turban, dancing as before, while the creature seemed to obey his wishes by preserving its position on his head. The cobra was next placed on the ground, and standing erect on its tail, moved its head to and fro, apparently keeping time to the music. Again whirling round as rapidly as before, the snake-charmer put his hand in the basket and pulled out successively and placed on the ground, two very poisonous serpents, from the deserts of Soos, called *leffa*. They were of a mottled colour, with black spots; were thick in the body, and not above three feet long. These reptiles proved more active and less docile than the cobra, for half coiled and holding their heads in a slanting position ready for attack, they watched with sparkling eyes, the movements of the charmer, darting at him with open jaws now and then as he ventured within their reach, and throwing forward their bodies with amazing velocity, whilst their tails appeared to remain on the same spot, and then recoiling back again. The snake-charmer merely warding off their attacks by the long skirt of his garment, on which the *leffas* seemed to expend their venom.

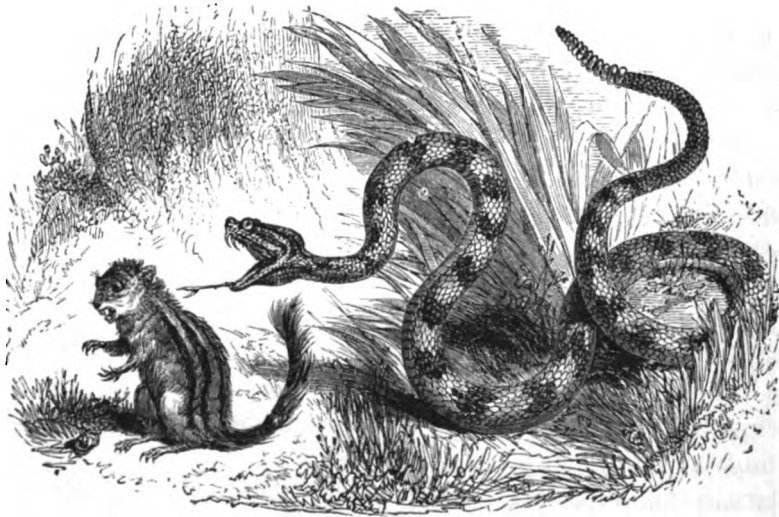
"Now having called again upon Seedna Eiser, he seized one of the *leffas* by the nape of its neck, danced round with it, and then opened its jaws with a small stick, and showed to the spectators its fangs, from which oozed a white and oily substance. After this he put the *leffa* to his arm, which it immediately seized, the man the while, whirling rapidly round, making horrible contortions as if in pain, and calling on his patron saint. The blood flowed from the wound, and the *leffa* then being removed, the man put the bitten part of the arm to his mouth, and danced for several minutes, while the music played more rapidly than ever, till at length he paused as if quite exhausted."

Imagining that there was some trick in all this, and that the *leffa*, having been deprived of its poison, was quite harmless, Mr. Hay requested to be allowed to handle it. "Are you an Eisowy," replied the snake-charmer, "or have you steady faith in the power of our saint?" Mr. Hay said, No. "Then," said the man, "if the snake bites you, your hour is come. Bring me a fowl, or any other small animal, and I will give you sure proof ere you touch the *leffa*."

A fowl was brought, and the serpent being taken up by the charmer, was allowed to bite it; the bird was set on the ground, and after running about as



A SNAKE-CHARMER CHARMING THE COBRA DI CAPELLA.



RATTLESNAKE CHARMING ITS VICTIM.

if in a fit for a minute or so, tottered and fell dead ; its flesh shortly after turned of a bluish hue. After this, as may be supposed, Mr. Hay did not incline to handle the *leffa*.

Whatever the peculiar power or trick of the snake-charmers may be, the same gentleman tells us that he has frequently seen them handle scorpions or poisonous reptiles without fear or injury, these creatures never attempting to bite or sting them. He relates that a young Moor at Tangier, who disbelieved the power of the snake-charmer, had been defied by him to touch one of his serpents, and that on doing so the *leffa* bit him, and he shortly afterwards expired. Nevertheless, when a celebrated French naturalist, who had observed that part of the ceremony of snake-charming, was pressing gently on the head, believed that this would be alone sufficient, and requested the juggler to do no more than this, the man seemed horrified at the proposal, and absolutely refused. The Frenchman then tried it himself, pressed the serpent's head, when as he expected, it instantly assumed the stiff and lifeless appearance, which so terrified the charmer that he rushed away, as if in expectation of some dreadful consequence.

The French naturalist was more fortunate in his experiment than one of the snake-keepers at the Zoological Gardens in the Regent's Park, who thought that he would imitate some of the tricks of the Indian serpent-charmers who had been exhibiting there. This man, whose name was Gurling, being half intoxicated, opened one of the glass cages in the serpent-house, took out a venomous snake which had lately been brought there from Morocco, and shook it above his head. The creature wound itself round his neck, but did him no harm. Not satisfied with this, though another keeper begged him not to do it, he exclaimed, "Now for the Cobra!" and slid back the door of its cage. The night had been chilly, and the snake was half torpid from the cold ; but the man took it out and revived it by holding it against his breast inside his waistcoat, after which he took it in his two hands and swung it round as he had done the other. In a moment, quick as lightning, it dashed forward, and inflicted two little wounds, like the pricks of a needle, between the eyes ; the blood flowed, and instantly he knew that he had received a mortal wound. The terrible beast, over which he had no power as a charmer, was replaced in its cage, and he, already falling into stupor, was conveyed in a cab to the hospital. Arriving there he was found to be paralysed ; he could not hold up his head, his face was livid and his breathing short. He pointed to his throat and groaned. First he lost his sight, then his speech, and lastly his hearing ; and within an hour and a-half from the time of receiving the bite he expired.

Deadly as is the bite of the Cobra, Forbes tells us in his visit to Dahomy that the native Africans have an infallible cure for it, but that they will not reveal their knowledge. He says that one of his hammock-men, whose father was a

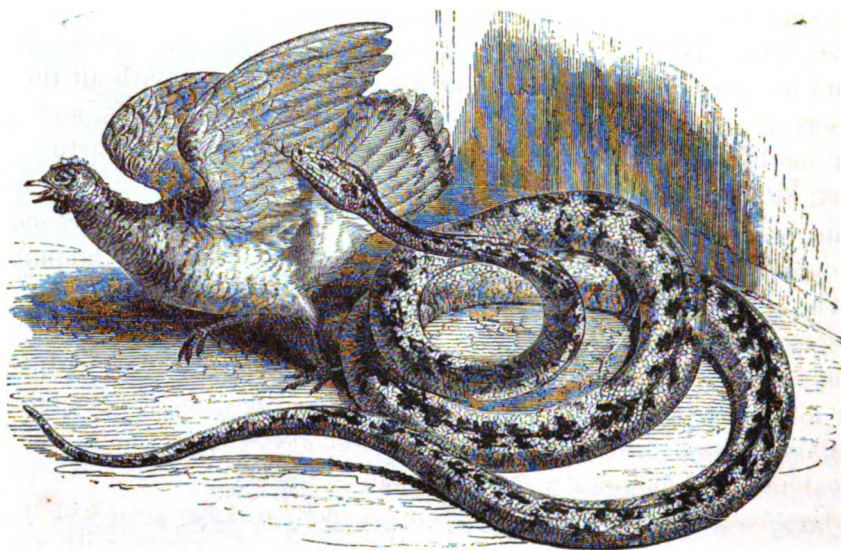
snake doctor, had been bitten three times. On one occasion, as he was going through the long grass, Mr. Forbes pointed to his bare legs and hinted at his danger. "There is none," said he, "my father picks some grass, and if on the same day as the bite the remedy is applied, the wound is cured." Mr. Forbes goes on to say, that this did not surprise him very much, because he had witnessed the fights in India between the mongoose or ichneumon, and the Cobra. The cobra at first has always the advantage, and the mongoose, apparently overcome by the deadly poison, retires as far as he can from the enemy, but that on eating a small herb which is of very common growth, he revives, renews the combat and conquers. It is a great pity that Mr. Forbes did not gather some of this herb himself, so as to have been able to say what the remedy really was.

The most formidable snake of North America, is the Rattlesnake, or *Crotalus horridus*, as it is called by the naturalists. It is most generally found in Virginia and the Carolinas. This snake, instead of being charmed or fascinated, is said to charm or fascinate its prey, which, in fact, becomes paralysed by terror of an enemy from which it knows that escape is impossible.

The Rattlesnake frequently grows to a large size, and the tail is furnished with a curious appendage consisting of a number of horny cells or rings which fit one into another, like so many loose joints, which rattle together when shaken, and make a distinct whirring sound like a rattle, which may be heard at some distance. The number of joints in the Rattlesnake's tail increase one with each moult or change of skin; and the virulence of the poison depends, it is said, upon the time of the year, it being most deadly in the hottest months.

Rattlesnakes frequently enter houses, barns, and out-buildings, but being of a more sluggish nature than the Cobra, are not so dangerous, seldom inflicting their bite on man unless first provoked by him.

Formidable and unconquerable as the larger class of serpents may appear, there are modern Nimrods, or mighty hunters of wild beasts, who, without any of the snake-charmers' power, have yet managed by dexterity and courage alone to overcome them. You shall hear how Gordon Cumming, the lion-hunter of Africa, encountered one of these monsters. He was sleeping near a drinking-place of the wild animals in the desert, and had killed the evening before three huge bull buffaloes, on which the lions feasted during the night; and next morning, as he was examining the foot-prints of the animals, he perceived an enormous old rock-snake, or boa constrictor, stealing in beside a mass of rock behind him. It was a huge beast, and Cumming, having never before attempted to capture a snake, hardly knew how to deal with him, especially as, wishing to preserve its skin uninjured, he would not shoot him. He therefore cut a stout, tough stick, about eight feet long, as a weapon, and seizing upon his tail, tried to drag him out of his place of refuge. It was in vain, however, to haul him in this way, he only drew his large folds closer



BOA CONSTRICTOR ATTACKING A BIRD.



BOA CONSTRICTOR PREPARED TO STRIKE.

together, and all Cumming's strength—and he was a very strong man—could not move him. He then threw a strong strip of hide like a strap, round his body, and he and his Hottentot attendant dragged at him with all their might.

The serpent now feeling himself in danger, relaxed his coils, and suddenly bringing his head round to the front, darted upon them like an arrow, with his huge and hideous mouth open to its widest extent, and before they could get out of his way he was completely out of his hole, and making a second spring, threw himself eight or ten feet to within a few inches of Mr. Cumming's bare legs. The snake having failed to seize his enemy, now glided away at his utmost speed; but before he could gain his place of refuge among the rocks, he was again attacked by several blows on the head from the stick with which his assailant was armed. On, however, he went, through a pool of muddy water, his enemy after him, until at length he slackened his pace, and finally could move no longer, when he was taken up and skinned; which, however, proved to be a very troublesome operation. This serpent was fourteen feet in length.

The adventure of Mr. Waterton, another of the Nimrods, with a snake in South America, was something like the above. He wished, like Mr. Cumming, to possess himself of the perfect skin of a boa constrictor, and therefore, having discovered one asleep, coiled up in a hollow tree, he took with him a number of people and went to the spot. He was also provided with a strong sack bag and a farmer's fork, and carefully approached so as not to awake the sleeping monster, which he found lying coiled in a large circle with its head in the centre. Before making his intended attack upon it, he gave clear instructions to his attendants as to what he meant to do, and how they must assist him.

He then cleverly struck the prongs of the fork exactly across the neck of the snake, so as to pin it to the ground without wounding it, and while his followers kept the fork pressed down with all their might, Waterton who was a very strong man, threw himself upon the creature and endeavoured to bind its head to the shaft of the fork. But this was no easy thing, for the huge creature finding itself pinned down, began to exert all its power to free itself, and it was all the men could do to keep the fork pressed down into the earth. The snake coiled and rolled itself up, and for a time seemed as though it would be master, but at length Mr. Waterton gained the victory. The serpent's head was firmly secured, and then Waterton making his retreat, allowing it to coil itself round the shaft of the fork. In this way they had him quite safe, but as it was then too late to kill and skin him, and as in that climate flies and decomposition might have injured him before morning, they determined to take him with them in their sack. But here was now a new difficulty, how to get him in. And a terrible piece of work they had! for when his head was released from the fork and put into the bag, there was the danger of his seizing on some of them; and when his head was safe down in the bottom of the bag, it was a

regular herculean labour to force in his huge body. At length, however, he was safely in, tied up and carried home. Mr. Waterton slept in a sort of loft or upper chamber, and the snake was left below. Here all night he rolled and tumbled about in the bag in a most violent manner, and would have been a terrible inmate if he could have forced it open. However he did not do so, and the naturalist had the next morning the satisfaction of adding a perfect Boa Constrictor skin to his other collections.

We must not conclude our account of snakes without mentioning those of Australia; few of which are found in other quarters of the world. A friend of mine who has been in that country, says that he saw about half-a-dozen kinds. There were a black snake, a brown snake, the diamond snake, the carpet snake, and the whip snake.

The black and brown snakes were generally from four to six or seven feet long, and thick in proportion. They were mostly, and the black snake always, in the vicinity of brooks and watery marshes. They can swim rapidly, and take to the water if alarmed near it. My informant has seen many of these, and helped to kill many. They generally get away if they can; but if they think themselves penned up any way, will immediately attempt to strike and kill you. Their motions are like lightning, and it is difficult to avoid their stroke. The great danger is of treading upon them in the grass or thickets, when they are almost certain to coil up and bite you. The horses are, on this account, very much afraid of them, and tread very cautiously, and with evident reluctance, where the grass is so tall that they cannot see the ground. Dogs, have an intuitive terror of them, and a dog belonging to our friend, which he took with him from England, though he had never seen a serpent before, and though he would attack any other kind of vermin, never would attack one of these snakes; but, while giving notice of their presence by a peculiar bark, kept always at a distance and in an attitude for a prompt retreat.

The diggers have such a horror of this snake, that they always set fire to the country when they first arrive to free themselves from them; yet, my friend says that he has seen large, and most deadly snakes issuing out of the ground directly under the spade of the digger.

In Van Dieman's Land, a few years ago, a convict, who was transported for life, discovered an antidote for the bite of any Australian serpent. He allowed himself to be bitten by any serpent that any person would bring, and that before the governor and officers, and in all sorts of public companies. The poison of the serpents took no effect upon him at the time. He then offered to make his invaluable secret known for his liberty and £200. The government declined to accept his terms, and the man is since dead, and the secret with him. That government has much to answer for to mankind.



GROUP OF WATER-FOWL.

WATER-BIRDS.

THE Creator, like a good parent, has placed all his numerous children in the situations and amid the circumstances which are most exactly suited to their convenience and pleasure. Hence, waters of all kind—lakes, rivers, or seas—have their peculiar birds, as well as other inhabitants, and all of which add to their beauty and interest. Water-birds are either waders or swimmers, according to the waters which they frequent. Waders have, many of them, long bills, for the purpose of digging into the mud of oozy marshes, or the margins of lakes and rivers; long legs have they, also, feathered only to the knee, or altogether bare, according to the depth of the waters which they frequent; and as Nature is in all her works so beautifully accordant, it will be found that the long, bare-legged waders, which frequent deeper waters than those which have legs bare only to the knee, have, consequently, a greater length of bill, to enable them to take their food from the deeper waters. The swimmers are all web-footed, with differences in their feet according to the waters which they frequent, and with equal differences in their wings for the same causes also. Thus, birds like the petrel, albatross, and gull, which live far out at sea, and encounter fierce storms, are furnished with long and powerful wings; whilst others again which remain near the shore, floating like little boats in the stiller waters of creeks and bays, or sunning themselves on the rocks of the beach, have short fin-like wings, as the Auks and Penguins.

Whatever the circumstances of the bird may be, it finds itself provided to meet them. If it wade, it has long legs; if it swim, it has webbed feet; if it have occasion to dive after its food, its feet are placed very far back, and it has the power of folding them up together into the very smallest compass, so as not to hinder its progress while bringing them forward to repeat their stroke in the water; many of them also are provided with a little bag fastened to the wind-pipe, which, being filled with air, enables them to breathe for a long time under water; while the plumage of the whole tribe is furnished with a natural oil, which renders them impenetrable to water. Nor, while speaking of the wonderful adaptation of the water-bird to its peculiar circumstances, must we omit to say, that this is a universal law as relates to all created things. No human mechanist could have made a bird so perfect as it is. Destined to live in great measure in the air, its body is a sort of air-vessel, while the quill of every single feather may be filled and emptied at pleasure. The Gannet, or Solan Goose, which lives on fish, may be seen floating like a cork on the waves in

the most tempestuous weather. This bird, as well as various others, has the power also of increasing its buoyancy by filling even its skin with air.

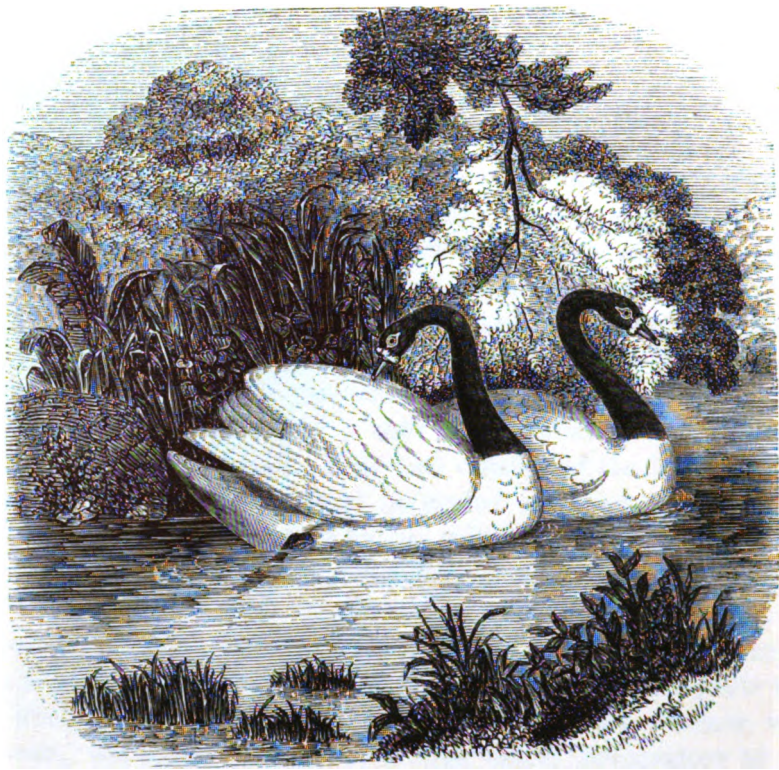
The dreary seas and icy lands of the North, where not even the hardy Esquimaux can face the rigours of the climate, seem set apart by nature for the heritage of various tribes of water-birds. As Bewick says, beautifully, "Here, amid lakes and endless swamps, where the human foot never trod—where, excepting their own cries, nothing is heard but the winds and the cracking and sighing of the icebergs—they find a safe home, where they can rear their young amid an abundance of food. This food consists of the larvæ of gnats and other insects, with which the air must be loaded in those regions during the summer months, and which, hatched by the unsetting sun, arise like clouds in myriads on myriads, and afford a never-failing supply to the young of the feathered tribes. Nor yet less is the abundance afforded by the spawn of fishes, and the young fry, which, fearless of angler or fisherman, sport in their native waters. In these solitudes they remain, only changing their haunts from one dreary and misty lake or bog to another, during the short summer, when the sun never sets; but when at length he dips down, preparatory to his long departure, and snows begin to fall, and hollow winds to come moaning over the young ice, then, gathering together in separate tribes their plump, well-fledged families, and obedient to the instinctive call within them, they take their departure, spreading out like the spokes of an immense wheel, to replenish the more southern regions of the globe."

Of this class of birds, the first which we will mention is THE SWAN.

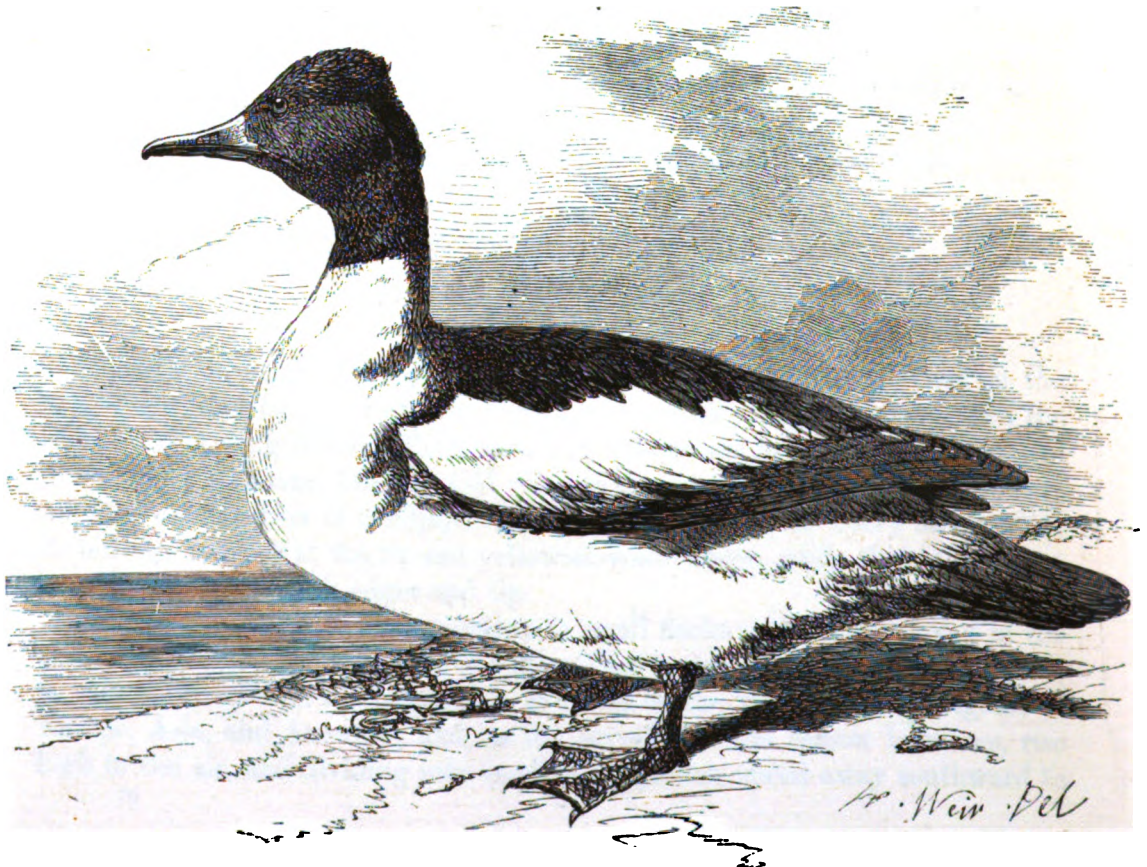
SWANS.

We have in England three kinds of swans: the Tame Swan, which is the largest and most beautiful of our British water-birds; Bewick's Swan, and the Wild or Whistling Swan. Both tame and wild swans have the same beautiful white snowy plumage, but the wild swan is the smaller in size, and has a very singular construction of windpipe, in which it differs from every other bird; its bill also is black at the tip and yellowish-white above, while that of the tame swan is red, with black edges and tip.

Wild swans generally keep together in small flocks or families, except in the pairing time. At the approach of winter they assemble, as we have just said, in vast multitudes on the large lakes or rivers of the more northern regions of Europe, Asia, and America; and, as the severity of the season increases, rise high in the air, and dividing into smaller companies, speed away southward to



BLACK-NECKED SWANS.



GOSSANDER.

milder countries, always taking a wedge-like form in the order of their flight.

From amid the icebergs through long ages piled,
Is the wild swan driven by the winter wild ;
He the keen air cleaveth, like a snowy spear,
Then descends, wing-wearied, on some English mere.

On the approach of spring they again retire northward to breed, many stopping for this purpose in the Hebrides, the Orkneys, and other solitary northern isles ; but the great body returns to the large rivers and lakes of Kamtschatka, Iceland, and Lapland.

The flesh and eggs of the wild swan are esteemed delicacies by the inhabitants of the North, and their soft, downy skins are dressed and sewn together for garments of various kinds. The North American Indians also weave the down into dresses for the great squaws or Indian women, while the chiefs wear the larger feathers as plumes. They also barter both down and feathers with the white trader for rum and manufactured goods. A great trade in wild swans' quills, for pens, was also carried on in the Crimea, where war is now raging so fiercely, and which abounds in marshes and morasses frequented by vast flocks of these birds. Bishop Stanley says, that this is, indeed, one of the principal sources of trade in the Black Sea, at its north-western extremity, in the neighbourhood of Kinburn, a Russian fortress, nearly opposite to Oczakof, at the point of a tongue of land, deeply indented with creeks and bays ; and, as the country is but thinly inhabited, it is thronged with wild swans, which choose the long sandy headlands on which to build their nests. The people, who collect their feathers, come down to the shore in great numbers, and pick up the feathers which are drifted on land by the tide. These are sold to dealers, who come from the neighbouring towns of Cherson and Oczakof for that purpose. These quills are often bought by them as high as sixty shillings a thousand, though about two-and-twenty shillings is the usual price.

The cry, or song, of the wild swan has something very wild and poetical in it. In Iceland it is said, that during the long autumn and spring nights, when the swans lie by thousands near the shore, their song is heard clear and ringing, like the tones of a glass harmonicon, and warlike as the trumpet or the hunting-horn.

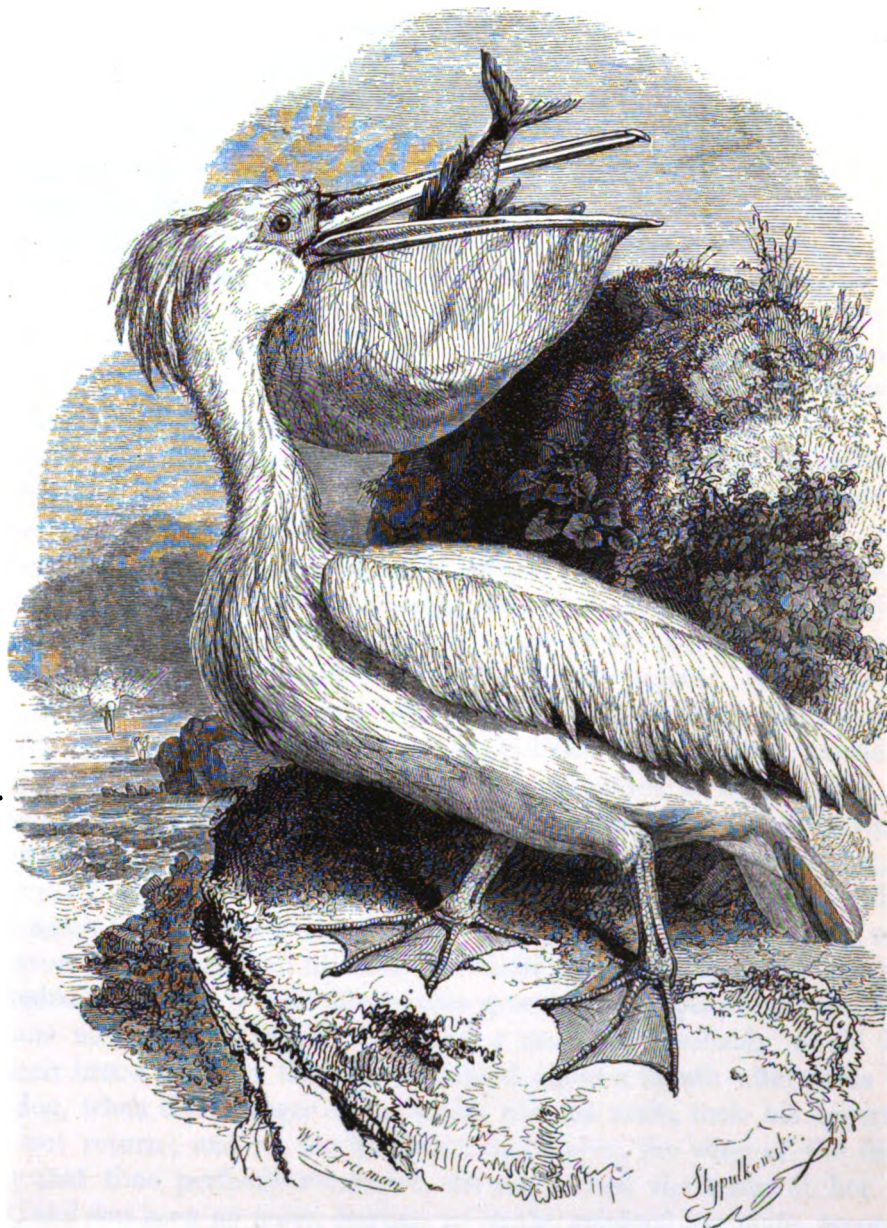
"A flight of wild swans," says a writer on the Shetland Isles, "is an interesting and attractive sight ; the majestic birds soaring on their powerful pinions, and uttering their pleasing, inspiring cry, which seems to breathe of eager expectation and cheering encouragement. This cry, to the natives of Shetland, is the first note of returning spring, like that of the cuckoo in more favoured latitudes. Sometimes the swans fly so high as to be almost invisible ;

yet their cheerful voices are still heard, sending a thrill of joy through the heart of the listener. On one occasion a flock of swans rested, on their long flight, upon one of the largest inland lakes, when a gentleman of the neighbourhood hastened with his dogs and gun to have a shot at them. The birds seemed wearied with the storms they had encountered; the air was heavy, the wind light and contrary, so that they could not easily rise. Fortunately for them, there were no boats on the lake, and the noble birds kept the dogs which assailed them at bay, and beat them at swimming, while, by keeping to the middle of the sheet of water, the gun-shot could not reach them; so that after a long chase, night coming on, they were left in quiet for a few hours, the sportsman lying down to sleep by the lake-side. At early dawn, however, he was awakened by a triumphant cry and a loud sound of pinions, and starting up, he was just in time to see the swans, taking advantage of a favouring breeze, majestically rise and speed their way still further north."

Both wild and tame swans are greatly attached to their mates, and attentive and affectionate to their young. I will relate a few facts to prove this, and which are only a few out of the many which are on record.

In December, 1829, a flock of wild swans passed over the township of Crumpsall, in Lancashire; and alighting, after their long and weary flight, in a large piece of water near Middleton, were shot at by the workpeople, which was a great pity, and very inhospitable to the poor strangers. They flew away again, of course, all excepting one, which had its wing so much injured that it could not accompany its friends. I said *all*, but that is not correct, as one bird still lingered—the mate, no doubt, of the poor wounded bird; and this continued to fly about the spot long after the others were gone, and its mournful cry never ceased. At length, as the people of the place kept on shooting, and trying to get possession of the wounded swan, the second disappeared and was not seen again for three months, when, all being now quiet, after flying round the reservoir many times and uttering its shrill cry, it finally settled down by the wounded swan, and a most affectionate greeting took place between them. The swans now seemed happy; they had a nest, and probably would have reared their brood, had not they been alarmed about a month afterwards by a strange dog, when the stranger swan, which was the male, took his departure, and did not return; and in the following September, the wing of the female being by that time perfectly recovered, she too quitted the scene of her misfortunes, and was seen no more, having, no doubt, rejoined her mate, according to agreement, in some well-known northern solitude, where they would be molested neither by dogs nor men.

Tame swans are numerous on the Thames, as well as on other English rivers and waters. In the old times they were considered royal birds, and no one



THE WHITE OR COMMON PELICAN.

was permitted to keep them who was not possessed of freehold property to the value of five marks a-year. They are still royal property on the Thames, and it is felony to steal their eggs. The Corporation of London used formerly, every year, to go out and count up and mark the swans, and every bird belonging to the king was marked with two little notches, or *nicks*, as they were called, which was the original mark of the royal bird—the swan with two nicks. From this it is supposed that the sign of “The Swan with Two Necks,” an old inn in London, originated: the *two nicks* becoming in process of time *two necks*. Formerly, too, roast swan was considered a splendid dish, and figured at great feasts, kings’ marriages, and such like; but, being a coarse kind of food, it has now gone out of fashion, though cygnets, or young swans, are still eaten and reckoned a great dainty.

The swan is said to live to a great age; some say that it lives a hundred, and some even three hundred years. The female makes her nest among the reeds and flags which grow near the water’s edge. She lays from six to eight large white eggs, and sits six weeks. She is extremely attached to her young, and will attack with great fierceness any approaching enemy, be he dog, fox, or man. It is said that the force of her wing will break the leg of a man with one stroke. Bishop Stanley relates, that a fox swimming towards a swan’s nest, with an intent to suck the eggs, was attacked by the mother-bird so fiercely with her wings, that he was very soon killed. Mr. Jesse, who lives on the banks of the Thames, and has a good opportunity of seeing their habits, tells us, that the mother-swan will frequently sink herself, so as to bring her back on a level with the water, when the cygnets will mount upon it, and in this way be conveyed by her to the other side of the river, or into stiller water. Each family of swans has its own little part of the river, where it lives by itself. The male is very attentive to the female, helps her to make the nest and to raise it in case of flood, when the water rises, and would otherwise chill the eggs, or perhaps even wash the nest and eggs all away together. As a proof of the kindness of the male, I must tell you an incident which I myself know to be fact.

A pair of swans lived in a piece of water at Colwich, in Nottinghamshire, adjoining a willow-holt, where in spring the willows had been cut down, leaving sharp, short stems sticking up from the ground. The swans were accustomed to feed in this holt, and as it was observed that the female remained day after day near the water’s edge, it was supposed that she was sitting. The male bird was constantly with her, and appeared to feed her. This, and the fact of her never appearing to leave the nest for a moment, led the keeper to go to the spot, when he found that she was literally pegged to the ground, one of the sharp, withy stems having run through her webbed foot, and having a

sort of barbed end, it had been impossible for her to escape; and here she would have perished had she not been faithfully attended and fed by her mate.

Bewick's swan is smaller than the wild swan, but differs from it in not having its peculiar formation of windpipe. It also is white, excepting the fore part of its head, which is sprinkled with dust colour, and, like the wild swan, it visits England in the winter in small flocks.

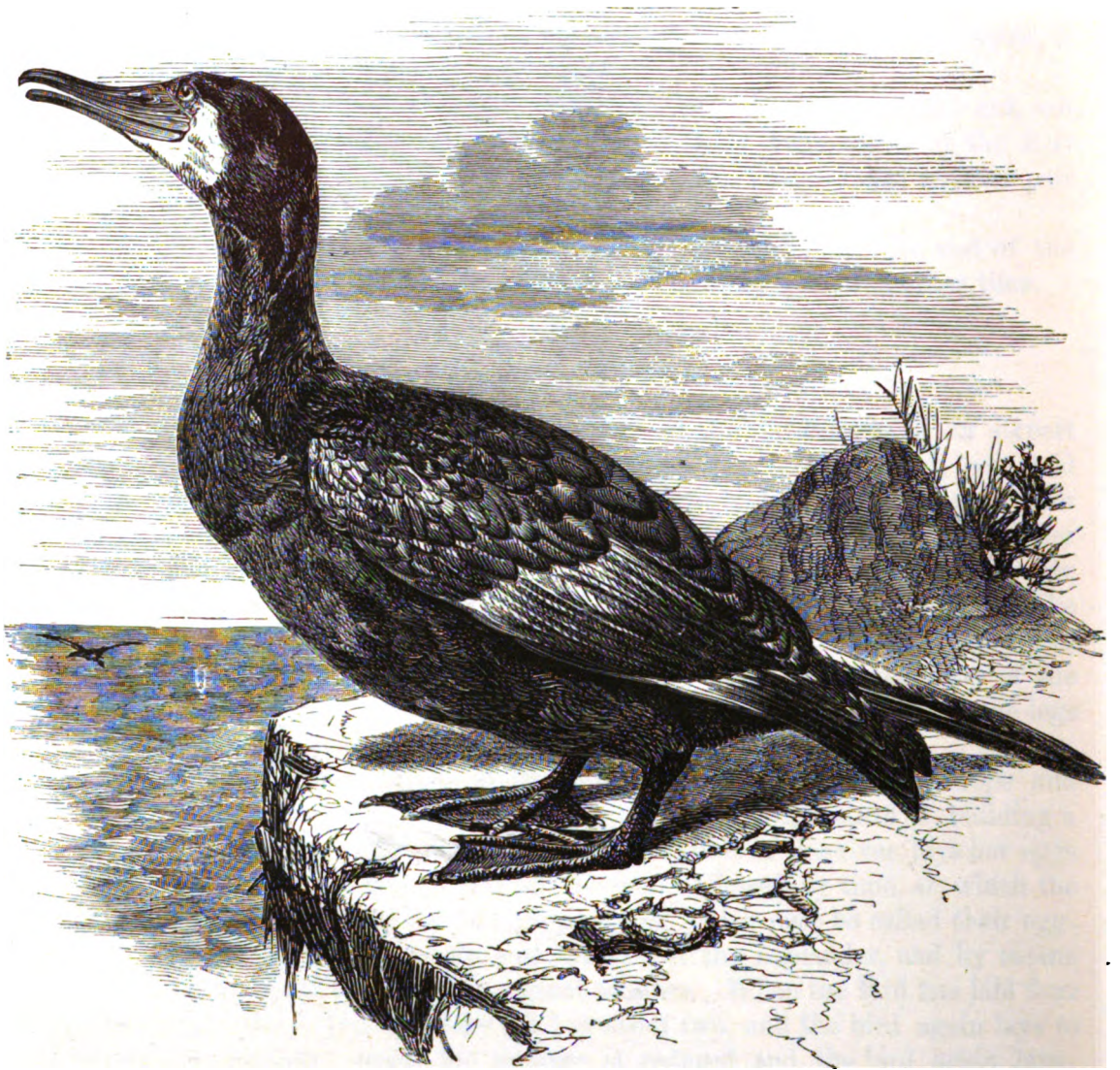
The two black-necked swans, of which we have here a beautiful cut, are natives of South America. It represents a pair lately bequeathed by the Earl of Derby to the Zoological Society of London. Her Majesty has another pair in the gardens of Buckingham Palace.

In Australia, where they have many curious things, unlike the rest of the world, they have black swans, to which I hope we may return another time.

THE GOOSANDER.

The *Mergus Merganser*, or Goosander, as he is called, is an expert diver, and lives on fish, both fin and shell-fish; eels, however, are said to be his favourite diet. Goosanders swim low in the water, so that their backs are nearly covered, and when they dive they remain a long time under water, and go to a great distance before they appear again. Their bills are hooked and sharp-toothed, to prevent the escape of their slippery prey. The head is crowned with a great quantity of feathers, which can be erected like a crest, and which are of a glossy green; the breast and under-part of the bird are cream colour, the rest glossy black, and the tail bluish grey; the legs and feet are scarlet.

The goosander is a native of the northern regions, both of Europe and America. A traveller in Lapland relates, that this bird, instead of building a nest, like the ducks, on the banks or among the reeds of the river, lays her eggs in the trunk of an old tree, which has become hollowed by time, or which the Laplanders have prepared for that purpose, and which may be called their egg-trap. These eggs are one of the few luxuries of the Laplander, and by means of his trap he contrives to obtain a great number. When the bird has laid four or five eggs, the Laplander takes all but about two, and the bird again lays to fill up the number; again the number is reduced and the bird again lays, and so it goes on till the Laplander has obliged every goosander that he can tempt by his traps to lay him at least twenty eggs; after which the bird is left at peace to hatch her brood, which are from twelve to fourteen in number. She is a very affectionate mother, and when her young are out of the shell, carries them gently in her bill to the water's edge, and showing them the way into the river, they immediately swim without any further teaching.



THE COMMON CORMORANT.

THE PELICAN.

The Pelican is at the head of one of the great families of web-footed water-birds, who are called after him, *Pelicanidæ*. Two of his cousins, the Tropical Anhinga, or Darter, and the Cormorant, will find their places in these pages; for the present, we must speak only of him, "the pelican of the wilderness."

Many wonderful stories were told about this bird by the ancients. It was said to draw blood from its breast to feed its young, and was thus made a type of maternal affection and devotion; various old authors assert that it not only fed its young in this manner, but brought them to life again with its blood, after they had been killed by serpents spirting their poison into their nests. Others have said, that camels in the deserts, when suffering from thirst, seek for the nests of the pelicans, which form reservoirs of water brought thither by the bird in her pouch. But these are all mere traditions. The bird feeds her young with fish, which she has caught and brought to her nest in her pouch or bag which hangs beneath her bill, and in order to force them forth she presses her beak against her breast, and assumes an attitude similar to that which represents her as drawing her own blood.

The pelican, however, as Bishop Stanley says, is a wonderful bird, without regarding these old traditions. Large as it is, six feet from the beak to the end of the tail, and with wings twelve feet across from tip to tip, yet the whole skeleton of the bird does not weigh above thirty ounces, its bones being so light as to be nearly transparent. The pelican, in fact, is possessed of the power, in a most remarkable degree, of filling itself with air, and thus, large as it is, it will frequently rise to an immense height. This extreme buoyancy, however, causes one difficulty to the pelicans—they cannot dive after their food; nevertheless, they have a remedy at hand. It is asserted on good authority, that in Russia immense flights of them arrive annually from the Black Sea and the Sea of Azof, at the mouth of the river Don, on their fishing excursions, into which they are, however, obliged to take their cousins the cormorants into partnership. The pelicans spread out their great wings and flap the water, while the cormorants dive below and drive the fish to the surface; by their joint exertions the shoal is thus driven to the shallows, when the pelicans easily take them, and the cormorants help themselves out of the huge, well-filled pouches of their companions. Any of our readers who have had the amusement of seeing the handsome pelicans in the Zoological Gardens of the Regent's Park fed, may easily imagine this scene; the flapping with the wide-spread wings, the headlong rush of the fish, the hurry-scurry scramble to get as much as possible into every pouch, the beauty of the pale pink-tinted plumage, the lemon-coloured pouches which seem to have a never-ending capacity for stretching; the whole such an

earnest, undignified scramble for a meal as cannot easily be forgotten. But after all, there is not probably as much gluttony in the creature as there seems to be, for while the Russian pelican allows his cousin the cormorant to help himself out of his pouch, the West Indian pelican, which has the power of diving and bringing up its pouch full of fish, is said to allow a species of gull, called the parasite, because it lives on the labour of others, to settle upon its head and partake of its spoil. "But if," says Bishop Stanley, "the pelicans of the West Indies permit themselves to be made into resting-places for other birds, those of the Eastern world consider themselves equally privileged to make resting-places for themselves on the bodies of animals. On the banks of the river Tigris, in Asia, the favourite resort of a species of pelican, they may be seen in great numbers spreading their silvery wings, quietly settled on the backs of buffaloes which are plunging into the water, and patiently accomodating themselves to this incumbrance."

Among other real, not imaginary wonders, which are related of the pelican, it is said that if disturbed while sitting, she will hide her eggs in the water, taking them out again so soon as the danger is over. The haunts of pelicans are the neighbourhood of rivers, lakes, and sea-coasts; they are rarely seen twenty leagues from land. They are to a certain extent gregarious, or living in flocks, and found in all parts of the world. Two different kinds are natives of Europe.

THE CORMORANT.

Almost everybody has a prejudice against the Cormorant, as a glutton, and you therefore, perhaps, see this bird figured on page 14 with some disgust. But remember, the bird is only as God has made it, a creature with a strong appetite; and if it does not eat its food in a very elegant manner, you must have patience and forbearance with it, as you would with any old-fashioned countryman who had never learned to eat with a silver fork. At all events, whatever his faults may be, he is no sham; he does not pretend to be any better than he is. He is a hungry fellow who enjoys his food, and he eats with a vehement relish.

The poor cormorant! I will tell you an old story about him:—"Once upon a time, the cormorant, the bat, and the bramble, entered into partnership as wool-merchants, and freighted a ship with wool, which unfortunately struck upon a rock and went to the bottom. This ruined the firm, who dissolved partnership; but the habits and effects of their trading speculation remain with them all three to the present day. The bat skulks in his hiding-places through the day for fear of his creditors; the bramble seizes hold on every passing sheep to gain a little wool to make up for his loss, and the old cormorant is always diving to discover, if he can, where lies his sunken cargo."



THE DARTER, ANHINGA OR SERPENT-BIRD.

Cormorants, however, dive only for their food, which is fish, and because they are so destructive in fish-ponds, they are mostly shot wherever they are seen. Mr. Waterton, the naturalist, however, whose greatest delight is to see the animal creation enjoying itself in its own way, allows the cormorant to fish in his pond, and likes nothing better than to see the old fisher, after he has satisfied his enormous appetite under the water, stand upon its edge and trim his feathers and put himself in apple-pie order, as any gentleman-fisher might do after a good day's sport.

The cormorant is found in all countries. In Greenland, Bewick tells us, that "their jugular, or neck pouch, is used by the natives as a bladder to float their fishing-darts; their skins, which are tough, are used for garments, and their flesh for food." Excepting, perhaps, to such people as the Greenlanders, whose appetites are about as coarse as that of the cormorant himself, this bird is not eaten, though the inhabitants of the Orkneys are said to find the flesh of the young palatable after it has lain some hours underground, by which means it becomes tender and loses its rank fishy taste.

The cormorant builds in rocks by the sea; its nest is made of seaweed, and it lays from three to five eggs. There are two lofty, inaccessible cliffs by the sea in the Shetland Isles inhabited by multitudes of cormorants; but, strange to say, the birds occupy these cliffs only alternate years, first one and then the other, and this has been the case ever since the memory of man.

The Chinese use the cormorant, which they call Loo-fou, for fishing; a ring being placed round the neck of the bird to prevent it from swallowing the fish. At the word of command from its master it dives after the fish, which the bird being unable to swallow, the master secures for himself. Sometimes, if the fish be too large for one to manage, two will act in concert, the one taking the head and the other the tail. Formerly they were also used for this purpose in England, being hoodwinked when taken out, in the manner of falcons, and the throat being confined by a leathern thong. When they had done their fishing, their masters took them to some high place, says an old writer, and rewarded them for their toil by throwing them a part of the prey they had caught, one or two fishes to each, which they would catch most dexterously in their mouth as they were falling through the air.

Charles I. of England had his Master of the Cormorants as well as his Head Falconer.

THE SERPENT-BIRD, THE ANHINGA, OR DARTER.

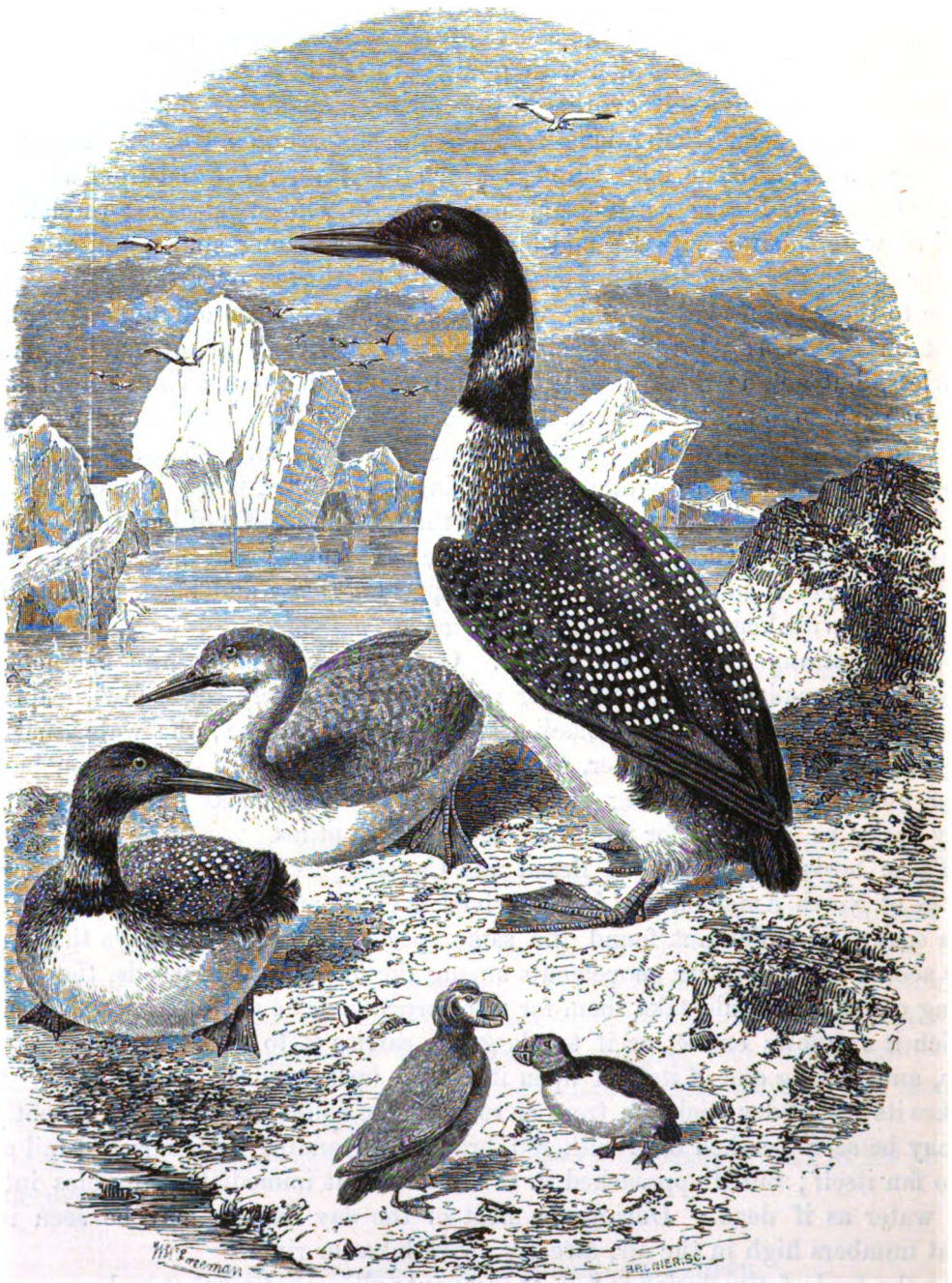
This Serpent-bird, as it is called, the Anhinga, or Darter, still a cousin of the pelican's, transports us at once into a tropical country.

Let us imagine ourselves in Florida. We are floating in a little boat down the Weldka, or Lake-river; the shores are thick with groves of palmetto, amid which are wild oranges laden with golden fruit, and magnolias full of snow-white flowers, while tall cypresses tower aloft, spreading out their higher branches, from which hang long trailing, moss-like, green tresses. And now we enter a large, clear lake, through which the river flows and from which it derives its name. The banks are overgrown with wild sugar-cane; the lake is full of water-plants, with red and blue flowers upon long stalks, and gigantic water-lilies; flocks of little green parrots fly twittering over the wild sugar-cane to the palm-groves beyond; wild turkeys, larger than our tame ones, are seen on the shore; lovely water-fowl flutter fearlessly about, and equally fearless, but not nearly so beautiful, numbers of alligators swim in front and on each side of our little boat, making a grunting or bellowing sound which is said to be very horrible in spring, while fish leap and splash about, but whether from terror or joy there is no saying. And look now! in the midst of their wild excitement, what apparition is that? The head and half the body of a serpent rises above the water; now again it is below; and now, yonder at a distance, there is another, or this same reappears, glossy and black in the sunshine, and with keen eyes sparkling like gems.

What a strange, wild scene is this! Orange trees, snow-white magnolias, splendid water-plants, and twittering green parrots, lovely water-fowl, leaping fish, grunting alligators, and black water-snakes! But no; the water-snakes are not there. It is the darter, the anhinga, or serpent-bird, which you have seen, and which from its long, slender neck, and rapid, snake-like movements, may easily be mistaken for one of those terrible reptiles.

These birds are natives of Brazil and Cayenne, as well as of the southern states of North America, and have derived their name from their resemblance to a snake. La Vaillant found the same species in Africa, and says that any one seeing their twisting movements among the foliage of the woods, the body being concealed, would take them for tree serpents. The darter lives upon fish, which it swallows entire, or if too large, it carries it to a rock or trunk of a tree, and placing one of its feet upon it, cuts it up by a stroke of its beak. It makes its nest of dry sticks on trees or rocks on the banks of rivers. Frequently it may be seen perched on a withered branch, expanding its wings and tail as if to fan itself; but if approached in this attitude, it immediately tumbles into the water as if dead. During the heat of the day darters may be seen in great numbers high in the air, directly above lakes or rivers.

As the food of the darter is fish, it frequents all such branches as hang over the water, where it fixes itself in an upright position, watching for its prey in profound silence. If there be foliage or long moss on the branch, it hides itself



DIVERS.

in such a manner that it cannot be seen, and then darts down almost noiselessly, and pursuing its prey with the speed of an arrow, reappears again at a distance, raising only its snake-like head and neck above the water.

It is a very wild and shy bird, and difficult of pursuit.

DIVERS.

We have had one little peep into the land of flowers and sunshine, but we must hurry back again to dreary latitudes, that we may take a glance at the Great Northern Diver.

The divers belong to that class of water-birds which are called short-winged, their wings being intended by the Creator less for the purposes of flight, than to assist them in swimming. Their legs are also placed so far backwards that movement is not easy to them, and on land they are generally seen in an upright position. The water is their true element, and the Arctic regions their home :

The land of frost, the land of snow,
The land where roses never grow ;
There basks the seal and prowls the bear,
And the wild diver's nest is there.

The great northern diver, the largest of this genus, is found on the remote northern shores, as far from the habitations of man as possible. Nevertheless, it is pursued hither by the hunter, to whom its skin is valuable, when tanned and dressed, and converted into caps and jackets. Although native to the far North, it is not uncommon in the Orkneys and other northern islands which come under our more intimate knowledge, and occasionally stress of weather or some other circumstance brings a stray one down even into the midland counties of England. Bishop Stanley describes two as being so killed, the one on a pool in Cheshire, the other on a large piece of water at Westwood Park, near Worcester. At this latter place, he says, this rare visitor seemed to excite a great alarm among the other wild fowl on the lake ; they seemed terrified when he approached, and kept as far out of his way as possible. He, in his turn, poor fellow, was much disconcerted no doubt, not finding near him any of his old accustomed objects or associate divers.

The diver makes her nest generally on the margins of lakes or on islands, and lays two or three eggs, mostly hiding both herself and them from the eye of man. So completely is this the case, that in the Orkneys the inhabitants assert that she makes no nest at all, and never leaves the sea, but hatches her eggs in a hole under her wing, given to her for that purpose by nature. But this belief, Bishop Stanley says, he attributed to the young being frequently seen

seated upon their mothers' backs, or taking shelter under their wings, as is the case with the crested grebe, which is a sort of cousin to the diver.

Divers are not only shy but timid, and one species, called the red-throated diver, frequently seen by the inhabitants of the North flying from one island to another, is so terrified by the loud shouts which they raise for that purpose, that it will drop down, as if shot, on the ground, when it may be easily caught by the hand. This species live together in pairs, and their affection is so great for each other, that if one of them is shot, or otherwise taken, the bereaved and disconsolate companion will not only hover over the spot for days, but even, it is said, approach the hunter that it may share the same fate.

However awkward on land, and apparently ill-adapted for flight, when they are once on the wing they fly steadily and rise to a great height, making at intervals a wild, dismal, howling noise, which is regarded by the inhabitants of the Orkneys as a sign of stormy weather.

The nest of the red-throated diver is made of moss and grass among the water-side reeds and flags, and lined with down which the bird plucks from her own breast.

THE AUK, THE PENGUIN, AND THE ALBATROSS.

The Great Auk inhabits the shores of the northern seas, as those of Iceland, the Ferro Isles, Greenland, etc. It is seen occasionally on the Orkneys and St. Kilda, but it is not numerous anywhere. These birds, from their difficulty in walking, are seldom seen out of the water. The female lays but one egg, which she hatches close to the sea-mark; it is of a large size, being about six inches long.

The Great Auk is called the Northern Penguin; but as it happens that less is known of this bird than of the true penguin of the Antarctic or Southern Ocean, we will give in preference an account of the strange goings-on of the King Penguin and his friend the Albatross, in the dreary island of Tristan D'Acunha. The penguin walks upright, his legs being placed even more backward than those of the auk; he holds his head very erect, and his little wings, which resemble little flappers or fins, dangle at his sides like short arms. These birds abound in the desolate islands of the Southern Ocean, and as they have a way of standing, drawn up in file, as it were, on the ledges of the rocky shores, they look like a strange army in black and white uniform, or still more comically, like a parcel of children with white pinafores tied with black strings. Their friend, the albatross, is a very different bird. He is the largest sea-bird that flies, and his body being small in proportion to his length of wing, he ventures out very far to sea, and seems to sport amid the tempests that sweep over those boundless extents of ocean. He cannot only swim, but can run on

the surface of the water, when smooth, with his broad webbed feet, and the noise of his splashing tread may be heard to a great distance.

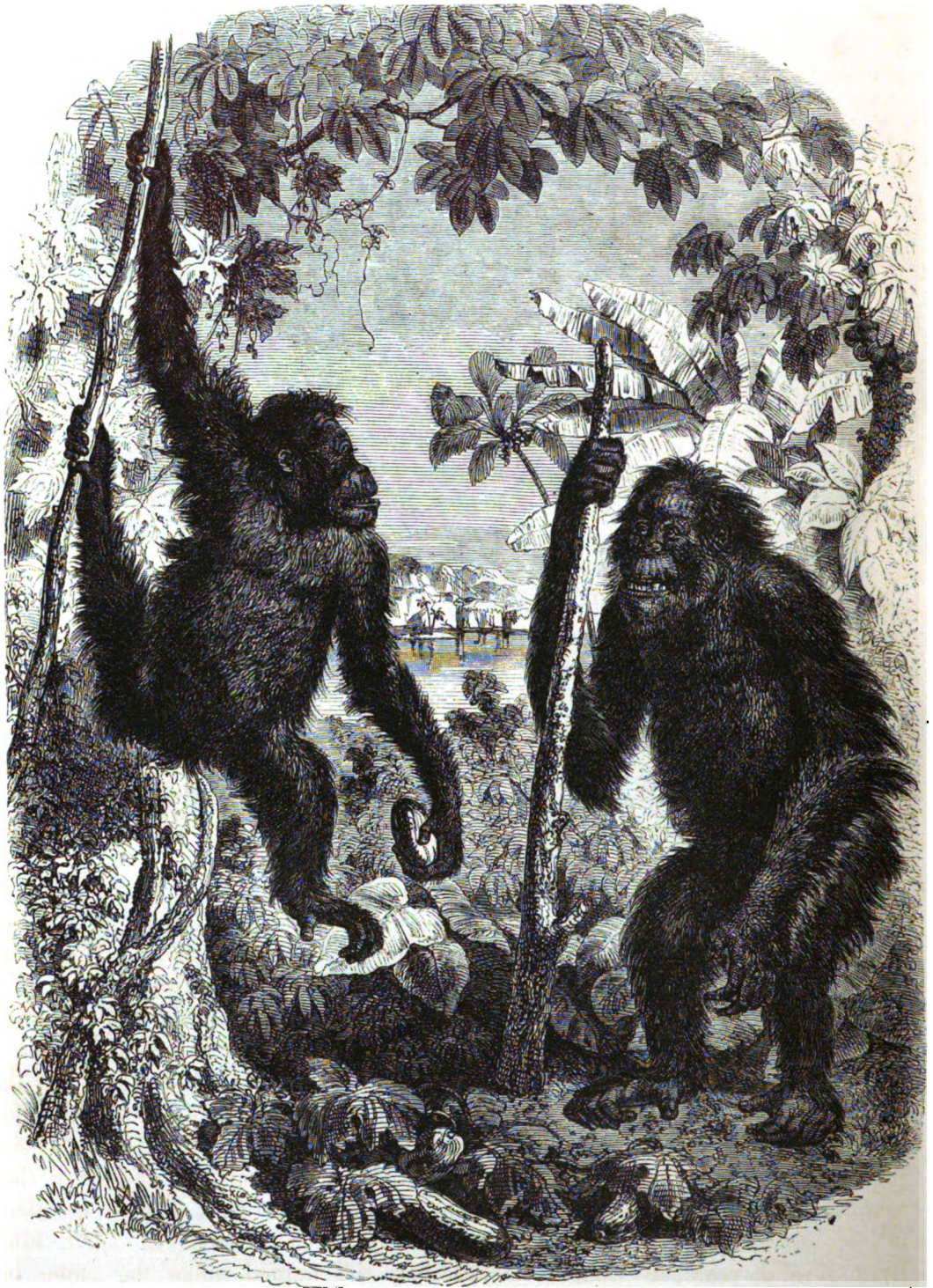
Between the albatross and the king penguin there is, as I said, a great friendship; but I will give you the queer story of it, which is quite true, from Bishop Stanley.

The great albatross, as we have seen, spends the chief part of his time on the wing. The king penguin, on the other hand, rarely quits the water. In the breeding season, however, both unite in vast flocks, and people the rugged rocks for a time. When they arrive on the shore, they spend a little time in consultation together, and this being satisfactorily concluded, they then set about the great business for which they are come. They choose as level a piece of ground as they can find, about four or five acres in extent, and as near to the sea as possible. When they have agreed upon this, they mark out very exactly an oblong square, large enough to accommodate the whole united party. One side of this square always runs parallel with the sea, and is left open for coming in and going out; the other three sides are fenced in, but in what manner, I will explain to you.

They now all set to work as busily as can be, and clear the ground of whatever may encumber it, carrying out the stones in their bills, with which they inclose the three open sides, and thus fence it in, as I told you, with a regular wall. Within the inclosure, and close to the wall, they make a pathway six or seven feet wide, the great high-road of their settlement, and upon it all the penguins walk by day, and sentinels patrol upon it by night. These, which may be called their earthworks, being finished, they lay out the whole area into little squares, divided, at right angles, by narrower paths, which are trodden quite smooth and hard. At every point where these paths cross each other, the albatross makes her nest, and in the centre of the little squares the penguin hers. In this way the entire space is occupied by the penguins and albatrosses, who go on extremely well together, and remain the best friends possible, only, I am sorry to confess it, the penguin robs her neighbour, when she has an opportunity. She is not a very tidy bed-maker, the penguin; she merely scratches a little hole in the earth just large enough to hold her single egg, while the albatross piles up a little mound of earth, grass, and shells, eight or ten inches high, about the size of a small water-bucket, on the top of which she sits upon her one egg likewise. None of their nests are ever left unoccupied a single minute until the eggs are hatched, and the young ones are old enough to take care of themselves. The male goes to sea till he has satisfied his hunger, and then returning takes the place of his mate, when she flies off for the same purpose.



1.—GREAT AUK. 2 & 4.—THE BLACK-BILLED AUK. 3.—THE KING PENGUIN.



CHIMPANZEES.

M O N K E Y S.

THE Monkey family, the *Simiadeæ*, as they are called by the learned, do not rank among *quadrupeds* or four-footed animals, but form a distinct class of themselves, called *quadrumana* or four-handed. This strange animal family, which bears so painful and humiliating a resemblance to mankind, is divided into three species, APES, which have neither tails, nor cheek-pouches, nor callosities, as they are called, on their hinder parts; BABOONS, which have short tails, callosities, and cheek-pouches; and MONKEYS, which, in addition to callosities and cheek-pouches, have long tails.

The tail-less Apes approach nearest in appearance to the human being. They walk upright, their limbs are in human proportions, they have calves to their legs, and their hands and feet greatly resemble ours. Besides this, they have a superior intellectual organisation, and can be trained, when taken young, to some of the habits and observances of civilised life.

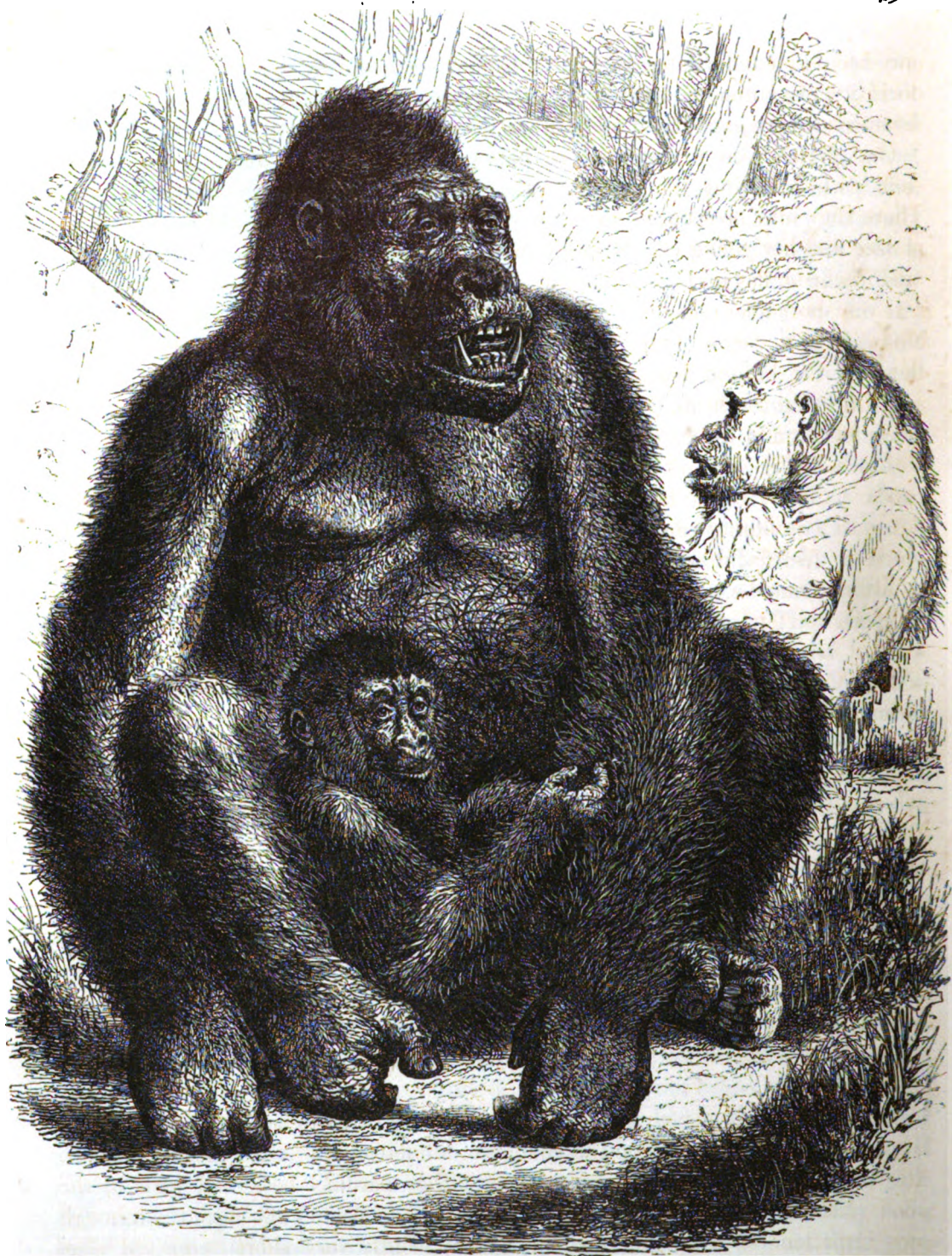
The natural food of apes is wild fruits, bulbs, and probably the inner bark and young buds of certain trees. They likewise eat insects and small reptiles, and search after the nests of birds, sucking the eggs and devouring the callow young. Eggs furnish a favourite diet with them, even in a state of confinement, and beef and mutton they will eat when cooked. Milk or water is their favourite drink; at first they refuse wine or spirits, but, like savages, or even like civilised men, they soon overcome any aversion they may have had to them, and learn to enjoy their glass like regular old toppers.

The Chimpanzee, which takes the highest place among apes, is a native of Western Africa, that is to say of Guinea, Benin, Congo, Angola, &c. The earliest known mention of the chimpanzee is in the account given by Hanno, a Carthaginian navigator, who was sent out by the senate of Carthage, about 500 years before Christ, to explore the western coast of Africa. He describes coming upon an island inhabited by wild men, who were covered with long black hair, and who fled for refuge to the mountains, where they defended themselves with stones. With some difficulty three females were taken, but so desperately did they fight, biting and tearing, that it was found necessary to kill them. Their preserved skins were carried by Hanno to Carthage, and hung up in one of the temples as consecrated trophies of his expedition. The next known mention of the chimpanzee is by a sailor, who was taken prisoner in 1589, and lived several years in Congo; he describes this animal under the name of the Pongo. In disposition, he says, it was grave and melancholy, but that its

strength was so great, that it could overcome two men, and that it was known sometimes to carry off young negroes. Its diet was fruits and roots; it built arbours to sleep in, and when one of the community died, the survivors covered the body with leaves and branches. Various voyagers to the African coast continued to describe this creature in the same manner. Lieutenant Matthews, in 1788, says, that the chimpanzees are social animals, and that they generally take up their abode near some deserted town or village, where the papau tree is abundant, of the fruit of which they are very fond. They build huts which they cover with leaves, but these are only for the females and young to lie in; the males always lying on the outside. If one of them is shot, the rest immediately pursue the destroyer, and the only means to escape their vengeance is to part with your gun, which they directly seize upon with all imaginable rage.

Several years ago a young chimpanzee was brought to England by Lieutenant Sayers, the mother having been shot. From information which he obtained from the natives, he states that the chimpanzee attains its full growth at about the age of nine or ten. It is then between four and five feet high, and so heavy as to require two men to carry it. Their strength, when full grown, is enormous. They live in troops, and are, he states, as numerous in the country north of the river Sierra Leone, as the commonest species of monkey. They travel in strong parties, armed with sticks, which they use with great dexterity. They are ever on the watch, and as soon as one of them discovers a stranger he utters a loud cry, like that of a human being in distress. The first time Lieutenant Sayers heard this cry, he believed it to be that of some person in terror or danger, but the native who was with him pointed to the bush, and said, "Massa, baboo live there!" and in a few minutes the wood was alive with them, their cries resembling the barking of dogs.

Several chimpanzees have of late years been brought to this country, but they seldom survive long. One was a female, which lived in the Zoological Gardens of the Regent's Park, from September, 1836, to the same month of the following year. It was remarkably docile and gentle, and showed great intelligence and attachment to its attendants. It died of consumption, and suffered greatly; there was something so gentle and human in its behaviour during its illness, as to excite the utmost sympathy. The same result followed all subsequent attempts to naturalise this poor mockery of humanity to our colder climate. They suffer much from our winters, wrap themselves up in bed in their blankets as a shivering human being might do, and cast around glances of deep distress, as if supplicating for help. Celebrated physicians have invariably attended the sick chimpanzees, and they describe their behaviour as singularly human; they soon come to understand the purpose of the physician's visit, and put out their poor hairy wrists that the pulse may be felt, and look into the physician's face with a plaintive expression of inquiring sorrow. The chimpanzee in England has thus



GREAT CHIMPANZEE AND YOUNG.

only been seen under interesting circumstances, and during its youthful years, when docility and gentleness are said to be its characteristics, but which, as they attain mature age, are exchanged for obstinacy and ferocity.

Our frontispiece represents two happy chimpanzees in their native wilds, each with his stout staff in his hand, and evidently on the search for fruit. There they may be seen, as also in our second picture of the old mother chimpanzee and her young one, with all their characteristic features clearly marked; bald forehead, flat nose, prominent and very movable lips, naked ears, lively, deep-set eyes, short neck, strong arms—the hair growing backward from the wrist to the elbows, like a coarse, hairy glove; all the four hands well made, with nails like those of the human hand. The body covered with coarse straight hair, longest and fullest on the head, down the back, and on the arms; the skin of the face a dusky black, and the ears and palms tinged with purple. It runs about quickly with a hobbling gait, often helping itself along by resting the knuckles of the two first fingers of the hand on the ground. Often, also, it walks quite upright, but with a waddling pace, moving its feet as if it were stamping with them. It places its feet flat upon the ground, and can grasp with them as well as with its hands, and may be seen sometimes, while resting on a bough as a perch, to throw itself completely backwards and then raise itself again into an upright position without using its hands.

The Orang-outan, or wild man of the woods, is another ape which strongly caricatures humanity. It is a native of Borneo and Sumatra, and while it resembles the chimpanzee in many respects, it differs from it also in many others. The tallest known orang-outan which has been examined, is between four and five feet high. The head is large, the forehead naked and flat; it has huge fleshy callosities on its cheek, which give a strange and hideous expression to its countenance; its eyes are small, and placed very near each other, its nose flat, a scanty moustache on its upper lip, and a long peaked beard hanging from its chin. It is covered with long shaggy hair, particularly on the back, and its arms are so long that the hands can reach the feet when it stands upright. The legs are very short, and the lower hands or feet, if you call them so, seem much less calculated for walking with, than to be used in climbing. In walking he never sets down the sole of the foot flat, but waddles along on the outer edge of the foot.

Many young orang-outans have been brought to England at various times, but none of them have borne the change of climate better than the chimpanzee. All these young wild men or women, or rather perhaps boys and girls of the woods, have appeared, like the chimpanzees, very docile and affectionate, although very impatient of their confinement, and evidently very short tempered also. When disappointed of any object, they break out into the most violent passions, throwing themselves about, crying, or even screaming, with rage.

The orang-outan does not live in social communities like his cousin the chimpanzee, but in solitary pairs or families, amid the remote and dense forests of the mountainous interior of Borneo and Sumatra. The natives have the utmost dread of them, as they are said to surprise and carry off the female negroes to their dismal sylvan retreats. They live in huge nests or arbours which they build in the topmost branches of the trees, and which are roofed with leaves and twigs. Each old man of the woods makes himself lord and master of a certain territory, which he very jealously keeps under his own control. Here he lies in his leafy retreat, like some old Eastern bashaw, in a sort of half drowsy state for hours, or moving about with slow steps gazing around with his savage, bearded, and melancholy countenance, the very picture of an old satyr of the forests. If, however, anything rouses him, he can perform the most astonishing feats of agility, and defend himself and his little property with desperate courage and determination. The tenderness and affection which the females show to their young, is a striking feature of their character. Captain Hall, who was sent to Sumatra to obtain a living specimen of these creatures, soon met with one, a female nearly five feet high. When he first discovered her, she was sitting on a branch with a young one in her arms. Upon being wounded she uttered a piercing cry, and immediately lifting up her little one as high as her long arms could reach, let it escape among the topmost branches. While the party approached to fire again, she made no attempt to escape herself, but kept her eye fixed on her offspring, and at last appeared to wave her hand as if to bid it farewell, or to hasten its departure.

It was observed of the chimpanzee in the Zoological Gardens, that it had an extreme horror of a snake, and also appeared to dislike a tortoise which was shown to it. So also with the young orang-outan in the same collection. He stood aghast, and in an attitude of horror and disgust, which is described as absurdly theatrical, when he beheld this strange crawling beast. He would play, however, with a cat with the greatest delight, tormenting the poor creature most dreadfully in his rude and savage sport. The young orang-outan, like the chimpanzee, may be taught to sit at table to his meals, to take his food with a spoon, to drink very properly from a glass; he also can arrange his bed tidily, and, like the poor chimpanzee, wrap himself up snugly in his blankets, lock and unlock his door, and do various other little acts with apparent good sense and propriety.

The Gibbons are another class of ape, smaller in size than the above, and varying very much in colour. They live in the eastern tropics in troops of families, some of them inhabiting the fig-tree forests of the mountains, others the forests of the plains. They seem to be an inoffensive race, with a grave, melancholy, and gentle expression of countenance. They dart with the most astonishing rapidity from branch to branch like birds, and it is said can even catch a bird on



THE CHACMA OR BLACK MONKEY, AND MANDRIL OR RIBBED-FACE BABOON.

the wing. Their voices are loud and shrill, uttering a sound something like woo-woo, which is ever repeated in an exact ascending and descending musical scale, and which, though deafening in a room, is not displeasing when heard in the depths of their native forests.

Many are the anecdotes which are related of these, the most amiable of all the apes. The largest of the gibbons is called the Siamang. Sir Stamford Raffles, who kept several of these animals, describes them as bold and strong, but easily tamed; gentle, confident, and social, and unhappy if not in company with those to whom they are attached. If a young one should be wounded, the mother, it is said, will not leave it, whatever may be her danger, uttering the while the most lamentable cries.

"It is a curious and interesting spectacle," says an eastern traveller, "which a little precaution has enabled me to witness, to see the females carry their young ones to the water, and there wash their faces in spite of their childish outcries, bestowing as much time and care on the operation, as if they understood its sanitary advantages." The siamang frequently falls a prey to the tiger, being, as it were, fascinated by intense terror, just as birds are said to be fascinated by the rattlesnake.

Mr. Bennett brought one of these apes with him to England from Singapore, which seems to have been a very interesting creature. He became greatly attached to a little Papuan child on board, and might often be seen sitting near the capstern with his long arm round her neck, the two lovingly eating biscuit together. He wished to make acquaintance with various monkeys on board, and to join in their gambols; but they, from some cause or other, avoided his company, and he in return pulled their long tails, and teased them in all kind of ways. When vessels passed at sea, he appeared greatly interested in the event, and would watch with his grave, melancholy countenance, from the peak haulyards, the departing ship, till she was out of sight. One anecdote is particularly worth repeating. Among various articles in Mr. Bennett's cabin was a piece of soap, which he seemed greatly to covet, and for the removal of which he had been once or twice scolded. One morning, when Mr. Bennett was writing in his cabin, he observed the siamang taking the soap, and watched him without letting him be aware of his doing so. The creature glanced to where his master sat, and as he appeared busily engaged, took up the soap and moved quietly away with his prize. Before he could get out of the cabin, however, his master called to him in a gentle voice, on which he instantly walked back and put down the soap in the place from which he had removed it, evidently showing that he knew he had done wrong. This poor siamang died ere it reached England, to the regret of all the crew. Another, which was presented to an English gentleman by the King of Assam, appears to have been equally amiable and interesting. It was a female, and answered to the name of Jenny. When any way indisposed, she fretted like a child, and came to

her human acquaintance to be pitied and comforted. Her food was milk and vegetables, and she had such a dislike to flesh meat that she refused to eat from a plate on which any had been placed. When thirsty, she dipped her fingers into the liquid and sucked them. She would not suffer herself to be dressed in any kind of jacket, but of her own accord would cover herself up with any cloth she found at hand, to keep herself warm at night. Another is described as, within a month from the time when he first came into his master's possession, being so tame as to walk hand in hand with him; to come at call and seat himself on a chair by his side at the breakfast table, and help himself to an egg or the wing of a chicken, without deranging the order of the table; he would take coffee, chocolate, milk, or tea from a cup, although he preferred dipping in his knuckles and sucking them, as the one we have just described. He used his right hand in preference to his left, and was very agile in searching for spiders, of which he was fond. He was very much attached to his master, and seemed to be glad of any means of showing his affection. He liked, above all things, to be combed and brushed, and would turn from side to side during the operation, holding out first one arm and then the other; and when his master, tired of his task, rose to go away, would pull him back by the coat laps, and look into his face with a beseeching expression, as begging for the continuance of the indulgence.

But it is time that we take our leave of the gibbons, and with them of the apes, and turn our attention to the Baboons, which form the second class. This branch of the great monkey family is called *Cynocéphalus* by the learned, from two Greek words which mean headed like a dog, from the doglike form of the head.

Our next engraving represents no very attractive specimen of this class, which is, in fact, the Chacma, or Black Monkey, accompanied by the Mandril, or Rib-nosed Baboon. The Chacma is about the size of a large mastiff, and its colour is dusky black, with an olive green tint.

The chacma, which name is a corruption of the Hottentot T'chacamma, is a large and powerful baboon, inhabiting the rocky mountains throughout the colony of the Cape of Good Hope, where in the remoter districts it is very abundant and destructive to the labours of the farmer. The male chacma is so strong and courageous as to be a match for two large dogs. Burchell states, that on one occasion a small company of them being chased by his dogs, suddenly faced about, and killed one dog on the spot and disabled another. A troop of them will attack the wild dog, hyæna, or even leopard. The females are devoted to their young, and will brave any danger in their defence.

The food of the chacma, says the author of the History of Monkeys, consists for the most part of bulbous roots, and it is customary for the troops to descend from the mountains into the secluded and fertile valleys where their favourite

plants abound. When suddenly surprised a cry of alarm is raised and the troop ascend the rocky cliffs, often several hundred feet in perpendicular height, with astonishing rapidity, the young clinging to their mothers, and the old bring up the rear. Besides bulbs and grain they are fond of eggs, and greedily devour scorpions, which they seize, nipping off the sting with such a quick movement, as to prevent themselves being wounded. Like most others of the monkey kind, the chacma whilst young is good tempered and playful, but as age advances, it becomes sullen and dangerous.

Le Vaillant, the African traveller, gives an amusing account of a young animal of this kind, to which he gave the name of Kees. "Kees," says he, "was a monkey of that species known at the Cape by the name of *bavian*. He was very familiar and attached himself to me. I employed him as my taster general, and when we met with any fruits or roots which were unknown to my Hottentots we offered them to him, and if he ate them, we fed upon them with confidence and a good appetite; but if he rejected them, we did so likewise. Kees, besides having this capacity of taster in ordinary, was also a most trusty guardian, whether by night or day; the most distant approach of danger roused him to watchfulness long before the dogs were aware of it. Indeed," continues the French traveller, "the dogs became so accustomed to his voice, and depended so entirely upon him, that they, instead of watching our encampment, went quietly to sleep; but no sooner had he given the alarm than the whole pack was up and on the alert, flying to defend the quarter from which he gave notice of approaching danger. I often took him out with me on my hunting and shooting excursions; on the way he amused himself by climbing the trees in search of gum, of which he was passionately fond; sometimes he would discover the honeycombs which the wild bees deposit in the hollows of decayed trees; but when neither gum nor honey was to be found, and he began to be pressed by hunger, an exhibition of the most comic and amusing nature took place. If more dainty food was not to be had, he would search for roots, and, above all, for the *babiana*, which the Hottentots call *kameroo*, of which he was very fond, and which, unfortunately for him, I myself found so agreeable and refreshing that I often demanded a share of his prize. This called forth all his little schemes and artifice so that he might keep it all to himself. When he found the *kameroo* at any distance from me, he gobbled it up with all possible speed, not even waiting to peel it, which was his general custom, all the time keeping his eyes fixed on my movements, and thus he generally contrived to have finished his feast before I came up with him. Sometimes, however, I was rather too nimble for him, and then he would break off the root and cram it into his cheek-pouches, from which I have often taken it. This violence and injustice, as it must have appeared to him, never, however, seemed to excite either resentment or malice. The method which he used to pluck up the roots was very amusing.

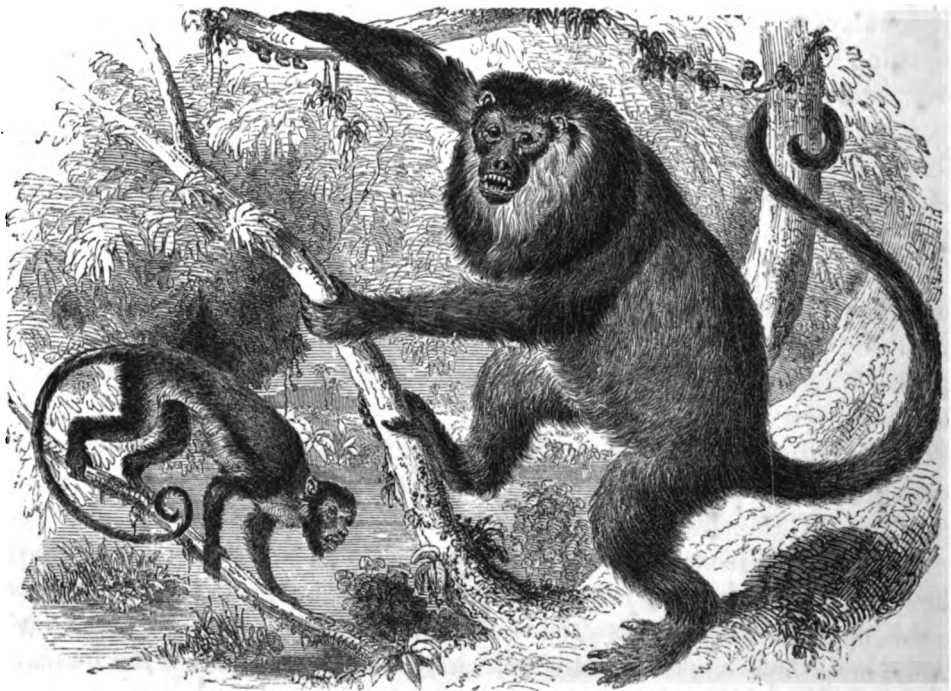
He would seize the tuft of leaves with his teeth, and then dig about and loosen the root with his fingers; after which, drawing his head gently backwards, he generally managed to draw it out without breaking it. If this method failed, he made use of another, and one most ingenious; seizing the tuft as before, and as close to the root as possible, he would throw himself head over heels, and the kameroo mostly followed.

"Kees had resources for all occasions. When he felt himself fatigued he mounted upon the back of one of the dogs, and thus compelled him to carry him for hours. One dog, however, there was which was a match for Kees with all his cunning. The moment Kees mounted his back, he stood stock still, as grave and motionless as a statue, and if he happened at that moment to be at the head of the train he would stand thus immovable till the whole had passed by, and even till we were almost out of sight. The increasing distance between himself and us mattered nothing to the dog, but it was a great trouble to Kees; still for all that, he could never get his enemy to move, until he alighted, and then an amusing scene followed: both dog and monkey would set off at full speed, but the dog, always suspicious of the monkey, kept him a little in advance, or, if alongside, never for a moment took his eye off him, lest by any chance he should again mount him. With the exception of this one dog, Kees was complete master of the whole pack. Excepting at meal times he was very good natured to the dogs, but then, if any of them approached, he gave them a sound box on the ear, which warned them to keep a respectful distance, and it was singular that none of the pack ever resented this insult or disputed his authority.

"Kees, like most other monkeys, had a great dread of a snake, but what is most singular, he had a still greater dread of his own species, and the reason of this I could never understand. Nevertheless, when he heard other baboons howling among the mountains, he invariably replied to them, but no sooner did they approach in answer than he would fly in the utmost terror, trembling in every limb, to the protection of his human companions. Like all other monkeys, he was greatly addicted to petty theft, but so conscious was he of wrong-doing, that after having stolen anything he would flee to the woods for an hour or two to escape immediate punishment, always taking care, however, to come home before dark. On one occasion only was he absent during the night. It was dinner time, I had just prepared some nice fricasseed beans on my plate, when I suddenly heard the note of a bird, which was new to me, and seizing my gun I rushed out to secure it. In less than a quarter of an hour I returned with the bird, but my dinner and Kees had both disappeared, although I had chastised the rogue the evening before for stealing my supper. Of course I expected him back at night, but no, he dared not show himself, nor yet was he seen the next day, nor the day after. I was beginning to be quite unhappy about his loss, for I missed his amusing qualities and his watchfulness greatly.



LEMUR OF MADAGASCAR.



MYCETES, OR HOWLING MONKEYS.

On the third day, however, some of my Hottentots brought me word that they had seen him in a neighbouring wood, hiding himself among the branches, as if afraid of being discovered. I immediately hastened to the spot, and after searching for some time to no purpose, heard his voice, in a tone which he used when begging a favour or forgiveness of an offence. Looking up, I perceived him, half hidden by a branch just above me; all my persuasions, however, could not induce him to come down, and it was only by climbing the tree that I succeeded in securing him. He made no attempt to escape me, however, and his countenance expressed a ludicrous mixture of joy at the meeting and terror of the punishment which he still expected."

The Mandril, or Rib-nosed Baboon, of which, as already said, we have given an engraving, is the most formidable and hideous of all this tribe. His frightful countenance is ribbed and painted by nature in all imaginable colours, as if she intended not only to caricature humanity generally in these creatures, but would show to the gaudily painted savage an odious image of himself, in the blue and vermillion, the violet, the black, and the golden-hued face of this monster of the woods.

This huge and ferocious baboon is a native of Guinea, and greatly dreaded by the inhabitants, whose women it is said occasionally to carry off to its dense forests. It lives in large herds, and commits great depredations in the villages and cultivated fields. Specimens of the mandril have been frequently seen in this country, and, as might be expected, acquire here none but low-lived and disgusting habits. One of these creatures was accustomed to smoke and drink porter, which he solemnly quaffed from a pewter pot as he sate in his arm-chair. His temper was violent in the extreme, being roused into fury by the slightest offence, and his appearance then was the most horrible that can be conceived; nor at such times would it have been safe for any to approach him without a weapon.

We now come to Monkeys proper, with their cheek-pouches, in which they can store a supply of food for a day or two, with long tails, and endless variety of colour and character. Monkeys belong to the tropical regions both of the East and the West, and their species are so numerous that we have space to notice only very few.

The Entillus, Hoonuman, or Straw-coloured Monkey, is held sacred by the Brahmins. It lives in the forests of the Western Ghauts, and is migratory according to the season. These monkeys, as I said, are considered sacred by the Brahmins from the place which they hold in the most ancient traditions. They figure greatly in the Ramayan, one of the oldest epic poems in the world. In this poem, which describes the contest between the powers of good and evil, Rama, or Vishnu, one of the Hindoo deities, takes upon himself the human form, and comes down to earth to fight with the demons, or Rackschasas, who, under their king Ravana, have taken up their abode in the island of Ceylon. The

good Rama of course enlists all the good powers under his banner, and among these are the invulnerable monkeys, under their chief, Hoonuman. Wonderful adventures take place, which would be well worth the telling, if we had only the time, and Hoonuman and Rama perform endless achievements of courage and skill.

Hoonuman, however, was guilty of an act of theft, which, though a great benefit to the people of India to this day, was nevertheless punished by the righteous Rama. He stole the mango tree from the gardens of a terrible giant whom he overcame, and gave it to the Hindoos. But for this theft he was punished by having his face and hands blackened. Hence, according to tradition, they remain black to this day. The story, however, is beautiful; for according to it not even the chosen companion of the gods could be guilty of an unworthy act without punishment. The hand is blackened, and the countenance loses its original purity and beauty, dimmed by the commission of crime. Poor Hoonuman, however, did not slacken his zeal on behalf of the higher powers, but engaged even in a project which had nearly cost him his beautiful tail. He undertook to set the island of Ceylon on fire, and thus to burn up at once the whole power of evil. Accordingly, he tied a tar-barrel to the end of his tail, and going to Ceylon, set it on fire. It was a foolish scheme, for he seems to have forgotten that his own tail would be as much endangered as his enemies in Ceylon. But of this he appears not to have thought till the danger was at hand. The tar-barrel was all in a blaze, and the next moment his tail would be sacrificed, when he determined to jump into the sea to extinguish the flames. But the fish, greatly terrified, besought of him to keep back, lest the sea itself should be set on fire. The learned of India are not quite agreed as to what was finally done: some say that he stretched out his tail on land, and that his friend Sumunder threw water upon it; others that he hurried away to the Himalaya Mountains, and swung it about in the head-waters of the sacred river Ganges. At all events, the lake which supplies these, bears the name of the Bunderpunch, or Monkey's Tail, to this day.

The veneration for this and one or two other species of monkeys still continues in India. Temples are dedicated to them, hospitals are built for their reception when sick or wounded, and a Hindoo killing one of them would be punished as for murder. From this cause they abound greatly, enter the houses and gardens of the natives at pleasure, and eat the fruit and vegetables at will. They live by thousands in the groves which surround the villages, to secure them from the intense heat; and they are allowed, if they please, to dwell in the houses almost in common with the proper inhabitants. They may thus be seen by dozens playing about on the flat roof, or sitting in the open verandahs, gravely observing what goes on around.

We have said that the baboons regard snakes with horror and aversion, but



THE COLOBA OF WESTERN AFRICA.



THE GREY LEMUR.

these Indian monkeys treat them in a very summary way. There is a celebrated banyan-tree, on the banks of the Nerbuddah river, which is inhabited by multitudes both of monkeys and snakes. The antics and gambols of the monkeys are very amusing; and if they ever suffer from the snakes, they repay the offence with interest. When they see one asleep, twined round a branch, they seize it by the neck, and hastening to the nearest stone, commence grinding down the reptile's head, looking on and grinning the while at their progress. When convinced that the poison fangs are destroyed, they toss it writhing to their young ones, and seem to rejoice in its destruction.

With the following anecdote we must take leave of the monkeys of the Eastern hemisphere:—A gentleman on a shooting expedition killed a female monkey under this very banyan tree, and carried it to his tent, which was soon surrounded by forty or fifty of the tribe, who made a great noise, and advanced to it with threatening gestures. On presenting his fowling-piece, they hesitated and appeared irresolute. One, however, which appeared to be the head of the troop, stood his ground, chattering in a furious manner, and nothing but firing at him seemed as if it would drive him away. At length, however, he approached the tent door, and by every token of grief and supplication seemed to beg the body of the deceased. This was given to him, and with demonstrations of sorrow the most affecting he took it up in his arms, embraced it, and carried it to his expecting comrades. The artless behaviour of this poor monkey so touched the hearts of the sportsmen that they vowed never again to shoot any of these creatures.

The monkeys of South America, which are all gregarious, or living in troops, differ from those of the Old World, by having neither cheek-pouches nor callosities; the tail of many of them is prehensile, or possessed of the power of holding, so that it seems to supply them with a fifth hand. These monkeys are found in Brazil, Peru, east of the great chain of the Andes, and in Paraguay; the plains which extend between the great rivers Orinoko and Amazon, are covered with dense forests thickly peopled with these monkeys; so thick, indeed, are the forests in this region, that were it not for the rivers which run through them, the monkeys might, says Humboldt, pass along the tops of the trees without touching the earth. The natives of South America hunt these animals and eat their flesh.

The *Ateles*, or Spider Monkey, so called from the length of its limbs and the flexibility of its joints, which give to it the action of the spider, is a familiar species of the South American monkey. In character and general intelligence it resembles the gibbons of the Old World. It frequently walks upright, spite of its long tail, with which, in fact, it balances itself. The tail is a most useful instrument when climbing and descending trees; frequently, having taken hold of a branch by its coil or twist, the monkey swings and thus launches itself to a distant

branch, of which it catches hold by its arms. The tails of these monkeys, like the trunk of the elephant, are endowed with a keen sense of touch. It is said that the end of the tail is thrust into hollows of trees for the purpose of hooking out eggs and other substances. The spider monkeys live in troops, and act in concert, either when fleeing from danger or opposing an enemy. If one is wounded, he becomes an object of great solicitude, and is carefully helped by his companions.

Another genus is the *Myctes*, or Howling Monkeys, which have a peculiar construction of the larynx, or throat, which enables them to give a howling tone to their voices. The howling of these creatures during the night, or before change of weather, amid the dense and gloomy forests of Guiana and Paraguay, is said to be inconceivably dismal and appalling. They are ferocious and melancholy in character, and never walk upright. Being, however, the fattest of all monkeys, they are most in request among the natives for food. Besides the howlers there are the Weepers, so called from the plaintive wailing cry which they make ; their disposition, however, is anything but melancholy. They are very intelligent, inquisitive, and mischievous, and so amusing in their antics, that the natives are said to stop their canoes and watch their frolics in the adjoining forests with unceasing interest.

The Sajou, or Sakis tribe, are also South American monkeys, and have, for the most part, long and bushy tails. There are various individuals of this class in the Zoological Gardens of the Regent's Park. This monkey is a most lively, agile, and amusing creature. Its disposition is said to be amiable, but capricious, and it is gifted with great intelligence. A male sajou which belonged to this interesting collection a few years ago was observed to make use of a stone for the purpose of cracking nuts which were too hard for its teeth, or if no stone were to be found it would strike them against the wall or any hard surface. It is continually making grimaces, grinning, wrinkling up its face, and apparently mimicking humanity with the most comic sedateness and success.

Without mentioning various other kinds, all equally interesting and amusing, among which are the pretty Marmozets, and the elegant cat-like Lemurs, or Ghosts, and which are so called by Linnæus from their natural habits and ghost-like movements, we must take our leave of the monkeys with the Cacajao, a native of Brazil. Like all its other relatives, the Cacajao lives in troops ; it frequents the banks of great rivers, and fills the air with its shrill and dissonant cry. It is very rarely seen in captivity, becoming more shy and timid, and shunning even the society of other monkeys. It is greatly alarmed at the sight of either a serpent or a crocodile, and when angry opens its mouth in a strange manner, and distorts its countenance by a dismal laugh.

In conclusion, we present our readers with a set of monkey heads and faces, which may perhaps afford them some amusement.



BLACK-CRESTED MONKEY.



THE HORNED MONKEY.



THE PATAURI MONKEY.



RED MONKEY OF BORNEO.



THE HORNED MONKEY: A MOUSTACHED VARIETY.



WHITE-FACED LEMUR.



AN ALLIGATOR.—(See p. 16.)

SAVAGE BEASTS OF THE WILDERNESS.

ONE of the most wonderful characteristics of the works of God is the endless variety which they present. The flower of the field ; the dew-drop on the grass ; the sunlight which shoots down like a golden arrow into the brook ; the silvery scaled fishes which cleave the running waters ; the bird that sings on the bough ; the beast of the wilderness ; all are different, yet all are full of beauty, and all fitted to the places which they occupy in creation.

Let us now cast a glance at some of those beasts which reign as kings in the great wilderness of the earth, and contemplate their savage beauty, their immense power, and their fierce delight. If they appear cruel and blood-thirsty, we must remember that they are the first occupiers of the earth, and that strong, and fierce, and terrible as they are, they will yet give place to man when he comes with his intelligence and cultivation to subdue the earth and possess it. Nevertheless, the savage wild beast, of whatever species he may be, is, and will remain to the end of time, to be the type or example of the fierce passions and the tyrannic power of the human being, even as the wily, many-hued, and cruel snake is the type of his cunning and guile. It is a great lesson from which we may gather instruction.

Tigers and leopards are first cousins ; they are cousins also to the beautiful smooth cat which lies basking on your hearth-rug before the glowing fire, or in the sunshine, under the warmest wall of your garden, among rose and lavender bushes. They belong to the Feline or Cat family, the lion himself being at its head ; and a numerous family it is, occupying among quadrupeds the same place that eagles and hawks do among birds.

In the very ancient times, great kings and warriors wore the skins of these animals as their most royal and befitting garments ; it was their kingly employment to clear the earth of its ferocious occupants, and the more spoil they exhibited on their own persons, the more respect they won. In the interesting bas reliefs brought by Mr. Layard from Nineveh, hunting appears to be equally important with war. Kings are represented as returning from or engaged in the chase of the lion and other beasts. These animals were kept at the courts of mighty monarchs, especially those of India, to add to the pomp and magnificence of their grand processions and triumphs. In the height of the Roman power, they were in great demand, being either sent as presents by conquered nations, or collected in Africa and India with much expense and trouble. The sports of wild beasts were a passion with the Romans, and the ruins of amphitheatres for this purpose have been found in the remotest parts of the Roman empire. Wherever their armies

were, there were carried on savage sports with wild beasts, which they thought was a means of exciting a martial spirit. On the occasion of triumphs, these animals were led in procession, as trophies from conquered nations; or, having been tamed and trained, they drew the chariot of the conqueror, who thus symbolised his power over the savage forces of the earth.

Wild beasts must indeed have been abundant in their native wildernesses in those days; when, for instance, five thousand could have been killed at the consecration of the amphitheatre of Titus. Sylla exhibited a hundred lions which he received as a present from Boschus, King of Mauritania, together with some Mauritians to fight them. Pompey exhibited at the opening of his theatre, games and battles with wild beasts, in which five hundred lions were killed in five days. On another occasion, he exhibited one hundred lions, the same number of lionesses, two hundred leopards, and three hundred bears; and in the theatre of Scaurus five hundred leopards were let loose at once in the arena. Nor was this destruction of animal life all: vast numbers of men, trained to combat with beasts took part in the sport, and frequently perished, while criminals were turned in among them to be thus destroyed. The passion for these barbarous amusements was so great, that whenever a wealthy man was a candidate for any office in the government, he endeavoured to win the favour of the populace by exhibitions of this kind, and the more bloody and fierce they were, and the more wholesale was the destruction of life, the more sure was he of winning the public good will.

Gengis Khan, the great ruler of the Moguls and Tartars, the Mogul conqueror of China, who lived about the time of our Henry I., one of the greatest warriors in the world, and who in about fourteen years is supposed to have destroyed five millions of human beings, was also one of the greatest hunters of wild beasts which the world ever knew. "On one occasion," as a historian relates, "the winter season having prevented his army from carrying on the war in which he was engaged, he determined to set on foot a great hunt, which should thus give his soldiers something to do. The vast army being drawn out, and the officers at the head of their troops, they were ordered to encircle a great extent of country, many leagues in circumference, containing immense woods and groves full of wild beasts; and thus narrowing their circle all were to be driven towards a plain which lay in the centre; and so strict were the orders, that any man who allowed a beast to escape was to forfeit his life.

"The word was given by the Grand Khan for the march to begin. Kettle drums, trumpets, and horns sounded, and the soldiers marched close together, ever advancing forward, fully equipped as for a warlike expedition, with helmets of iron, corslets of leather, bucklers of wicker, scimitars, bows, quivers full of arrows, hatchets, clubs, cords, packing needles and thread, driving the beasts before them as they advanced, and followed by their officers, who kept a strict watch on them.



A FIGHT BETWEEN THE SAVAGE BEASTS OF THE FOREST.

As they were forbidden to allow any beast to escape, neither were they permitted to kill or wound any, whatever violence might be offered by the animal. They were to shout and frighten the game forward. Thus they marched, every day driving the beasts before them, as if on a warlike expedition, sentinels being relieved and watchwords given. They marched for some weeks without interruption, until they reached a river which was not fordable in all parts, and which caused a halt. The beasts were driven into it and swam across, and the soldiers passed over on hides bound together, several being seated upon one of these bundles of leather, which were then fastened to a horse's tail; the horse drawing it after him as he swam over.

"The circle grew less and less; and the terrified and furious beasts, finding themselves pressed, some ran to the mountains, some to the valleys, and others to forests and thickets, but all were again dislodged and driven on. Presently, however, the beasts began to mix and become furious one against another, the strong falling upon the weak and tearing them to pieces.

"In the meantime couriers were coming from all quarters with news of what was going on to the Grand Khan and the princes who were with him, he keeping a strict eye on the soldiers all the time to see that they did their duty.

"And now the beasts, as we have said, were furious, and the timbrels and drums and other instruments were played upon, and the noise of these, together with the cries and shouts of the troops, so terrified the wild animals, that they lost all their fierceness. The lions and tigers grew gentle, and bears and wild boars, like the most timid creatures, seemed cast down and amazed.

"Again the trumpets sounded, and the Grand Khan entered the circle first, holding in one hand his naked sword, and in the other his bow, with his quiver slung across his shoulder. He was attended by some of his sons, and all his general officers. He himself began the slaughter, striking the fiercest beasts, some of which became furious and endeavoured to defend their lives. At last he retired to an eminence hard by, where was a great throne prepared for him, and where he could witness all the sport and see the courage and skill of his sons and his great officers as they attacked the savage beasts." What number of beasts or men were slain on this occasion I know not, but it is recorded that no man shrunk back from the danger, well knowing that the eyes of the Grand Khan were upon him.

Some of the Indian sovereigns, as the king of Pegu, for instance, have kept parks of tigers, leopards, lions, and other fierce beasts, to devour criminals. In some parts of India, however, especially in Hindostan, these ferocious animals are regarded as sacred, either as an embodied deity, or as evil spirits which may be propitiated or rendered favourable by offerings of food. In this country, therefore, says Sir William Jardine, in "The Naturalist's Library," "it is considered a crime to destroy a tiger, and the teeth and claws are worn as charms

against their ravages. Similar ideas prevail in a great part of the East Indian Islands, and precautions are scarcely ever taken against a wild beast. Sir Stamford Raffles tells us, that when a tiger enters a village in Sumatra, the foolish people prepare rice and fruits, and place them at the entrance of their houses, believing that by giving him this hospitable reception, they shall please him, and that he will go on without doing them any harm."

The leopard is *fetish*, or sacred, also in Africa, and it is forbidden to kill one on pain of death. Sometimes, however, says Mr. Forbes in his "Visit to Dahomey," it will chance that the leopard falls into the trap intended for the lion, and in that case the head and skin belong to the king. If a man fall a victim to the leopard, he is gone, according to Dahoman belief, to the land of good spirits, and his relations will, if possible, feed his devourer instead of killing him. Woe, however, to him who kills this fetish; he had better have killed a human being, for he is sacrificed to the offended deity.

We have spoken, in our little book of snakes, of the fetish serpent of Whydah, and therefore it is less to be wondered at, that the leopard, the *voodoong*, or fetish, is supposed to represent the Supreme Deity on earth. Animals are sacrificed to him, says the traveller we have just mentioned, sometimes a bullock, and the manner of the sacrifice is as follows:—The priests and priestesses assemble in a ring in a public square, a band of discordant music attends, and having arranged the articles of their religious procession, such as banners, spears, tripods, and vessels holding bones, skulls, congealed blood, and other barbarous trophies, they dance, and sing, and drink, until they become excited. The animals are then produced, and beheaded by the male priests with large chopping-knives. The altars are washed with the blood caught in basins; the rest is taken round by the priests and priestesses, who, precisely as Moses commanded the elders of Israel, strike the lintel and two side-posts of all the houses of the devotees "with the blood that is in the basin."

Leaving now these savages, whether ancient or modern, whether destroying wild beasts in fierce and unnatural contests, or worshipping them as deities, let us rejoice that we live in happier and more enlightened times, when the terrible beasts of the wilderness are placed in beautiful gardens for the peaceful and noble purpose of making us better acquainted with their nature and structure, and showing us in them, the marvellous handiworks of the great Creator.

"Lions, leopards, lynxes, porcupines, and other uncommon beasts," were brought into this country as early as the reign of Henry I., who had a royal menagerie at Woodstock. From Woodstock they were removed to the Tower, and formed the foundation of our present public collection.

The lion stands at the head of the feline or cat family; after him comes the tiger, which is, perhaps, a more terrible scourge to man and beast in the country where he abounds than the lion himself. Tigers are only found in the



THE TIGER.

Asiatic continent and in some of the East Indian Islands, as Java and Sumatra. They are found also in the desert countries between China and Siberia; but they are most abundant in Malacca and the Peninsula of Hindostan. "The vast jungles of this rich country," says Sir William Jardine, "lining the courses of majestic rivers, harbour thousands of these animals, for water is as necessary to their nourishment as food."

The tiger has neither the shaggy mane of the lion nor his bold and majestic bearing, and his countenance, expressive of eagerness and wanton cruelty, is the more terrific of the two. He is longer in proportion and more slender than the lion, his head is rounder, and all his motions are stealthy, graceful, and easy. His hair is thick, fine, and glossy, of a bright tawny colour shaded to pure white on the under parts, and beautifully banded and brindled with black. In a country where food is plentiful, the tiger is a nocturnal animal, lying during the day in some thick cover, defended from the heat, and gorged with his last meal in sleepy indolence. In uncultivated regions, he watches morning and evening, near some jungle path where the animals pass, or at the fountain or common drinking-place, whither all creatures, whether weak or powerful, are compelled by the intense heat to resort. He skulks around the villages, attacks the cattle-folds, and finds a welcome prey in whatever has life. He glides stealthily behind travelling parties, on the watch for some luckless straggler, and the baggage trains, consisting of troops of oxen and buffaloes trained to the yoke, are closely watched, and though attended during the day with drums and noisy instruments, and at night by torches, he generally contrives to seize one at least as his booty.

Various are the methods which have long been in practice to destroy the tiger; five rupees have been paid for each head; he has been shot at with poisoned arrows; traps of various kinds have been set for him; and he has been caught by bird-limed leaves; but no device was very successful against him, until the European came with his deadly fire-arms, and before them he is gradually retiring into the most remote and impenetrable districts.

Tiger-hunting is reckoned very fine sport, and our British military officers are much addicted to it. Elephants are the only animals which can be used in taking this terrible game; they are trained for the purpose, and display not only cool courage, but so much skill and sagacity as frequently to have saved their rider's life. Sometimes as many as a hundred elephants, though more generally from ten to thirty, each carrying a sportsman armed with a rifle, go out on these grand hunting excursions, which have a sort of savage grandeur about them, not unattended with danger, and which the elephants appear to enjoy as much as the men. But we have not space to go into the particulars of a tiger hunt, and leaving, therefore, this monarch of the jungle we will turn to his relation, the leopard. Six of these animals bred in captivity

in the Zoological Gardens, Regent's Park, are represented in our frontispiece.

There seems to be some difficulty among naturalists in accurately distinguishing the leopard from the panther, the *pardus* of the ancients, and they are, in fact, very nearly akin. The leopard is, however, the more common of the two, and is found both in Africa and India, while the panther is mostly found in Africa. Closely akin, also, to both these animals, is the South American jaguar. The leopard is smaller in size than the tiger, has most of its cat-like characteristics; the same elegance of motion, the same stealthy and sudden spring, but is less treacherous and wantonly cruel. It is very beautiful both in form and colour. The upper parts of the body and the outsides of the limbs are of a fine yellowish tawny, the under parts white, and covered with rings of spots in black, like rosettes, the colour being of a darker shade under and around the spots; the back of the ear is black; there is a black spot at each corner of the mouth, and a white one above each eye. The grace and ease of motion, the harmony of colouring, the symmetry, and yet variety, of markings in all these animals, fill the spectator with admiration and delight. The panther is about the same size as the leopard, but more strongly built, his colour somewhat darker and his spots much more regular in form and arrangement; the tail also is longer. These animals confine themselves more closely to the covert of the thick forest than the tiger, and are, therefore, less generally seen. They prey upon deer and antelopes, hares, wild fowl, and monkeys, and being very expert climbers, pursue their game into the trees. They are seldom hunted, but are most generally caught in traps. Did our space allow it, we might give a most interesting account of a tame panther belonging to Mrs. Bowditch, afterwards Mrs. Lee, and which was given to her when in Africa, by the governor of Cape Coast. He was as amiable, faithful, and inoffensive as a dog, and the most interesting anecdotes are related of him. "He was," his mistress says, "fed twice a day, but had never anything with life in it given to him. He stood about two feet high, and was of a dark yellow colour, thickly spotted with black rosettes, and, from the good feeding and the care taken of him, his skin shone like silk." When Mrs. Bowditch embarked for England, she took her favourite with her, confined in a strong cage. He behaved extremely well on the voyage, although the vessel having been boarded by pirates, the crew and passengers were almost reduced to famine, and the poor panther suffered, of course, like the rest, and must have died had he not been kept alive by parrots, which died daily, out of a great number which were being brought to England. This panther experienced the utmost enjoyment from the scent of perfume, and he was indulged twice a week with a little lavender-water, poured into a sort of cup made of stiff paper. He had been taught, in receiving this indulgence, to sheathe his formidable claws, with which he would otherwise have clutched at his treasure. He neither liked black people, pigs, nor monkeys, and the sight of an



THE STRIPED HYENA.

ourang-outan on board almost drove him furious. He did not long survive his arrival in England, and died of inflammation of the lungs.

If, as we have so frequently said, different classes of animals represent different classes of human beings, it must indeed be a very low and degraded class which is represented by the hyena. And it is quite true that its unabashed, ferocious countenance, its loud quarrelsome voice, its coarse, dirty-looking hair, and its restless movements, bear a striking resemblance to the characteristics of hardened and low-lived humanity. Let us for a moment look on and endeavour to avoid all affinity with him.

Hyenas are distinguished by having their fore legs longer than their hind ones; their tongues are rough, their eyes projecting, their ears large, and their teeth terrible. They are furious and cowardly animals, coming abroad only at night, and uttering a howl so horrible that the hearer, though safe himself, is filled with indescribable dread. Bewick says, that nature has been kind in giving this creature so fearful a yell, which it seems to delight in uttering, that every living creature may be on its guard and secure itself from the attacks of so cruel an enemy. During the day they conceal themselves in caves, ruins, and other obscure retreats. They are extremely strong, and carry off animals larger than themselves. Ape-flesh is a favourite food with them. They infest and ravage burial places, which are in vain defended against them.

This obscene and disgusting animal is confined to Asia and Africa. The striped hyena, of which we have given an engraving, is generally of a dirty gray colour, irregularly striped with brownish black, and has a mane running along the spine, which fiercely bristles up when it is angry. It is found in India, the mountains of Caucasus, Asiatic Turkey, Syria, Persia, and Central Africa. Cruel and savage as it is, it is yet capable of being tamed, even as the Ragged School and the Temperance Society may raise a degraded humanity to the rank of man. Ignatius Palme, a traveller in Africa, says, that he saw a hyena in the court of a house at Sobeid, running about quite tame. The children of the proprietor teased it; took away the meat thrown to it for food, and put their hands even into its mouth without receiving any injury. "When we took our meals," says he, "in the open air, to enjoy the breeze, as was our general custom, this animal approached the table without fear, snapped up the pieces that were thrown to it like a dog, and did not evince the slightest symptom of timidity. A full-grown hyena and her two cubs were, on another occasion, brought to me for sale; the latter were carried in arms, as you might a lamb, and were not even muzzled. The old one, it is true, had a rope round its snout, but it had been led a distance of twelve miles by a single man without offering the least resistance." The Africans of this quarter do not even reckon the hyena among the wild beasts of their country, for they are not afraid of it.

The spotted hyena, found in Southern Africa, and called the tiger-wolf by the

Cape colonists, is the most fearful of all these hideous creatures from its appetite for young children. It will frequently enter the bee-hive-like dwellings of the Mambookies at night, in which sleep the young cattle as well as the inhabitants; but the hyena leaves the calf untouched when there is a child in the dwelling, and perfectly silent in its approaches, will even steal the little one from the mother's side and glide off unperceived, if some good angel does not wake the sleeping parents in time to fly to its rescue. Yet even these creatures may be tamed, and are, it is said, occasionally trained to the chase. Let no one despair after this of the power of education.

The Villous hyena, or the strand-wolf, as the Cape colonists call him, is a third variety which frequents the sea-shore for dead animals, as whales for instance—in fact, hyenas do some good wherever they exist, in acting as scavengers, clearing away putrid and unwholesome substances, which otherwise would become still more offensive. Fossil hyenas are found in this country.

We now come to another kind of strong and savage animal, but this belongs to the water rather than to the land. Crocodiles, as they are called in the Old World, and alligators or caymen in the New, belong to the Saurian or Lizard family, and are its greatest representatives. They are terrible creatures, clothed with a coat of mail, and toothed along the spine with a ridge or bony crest, like old warriors, ready every moment for battle. The legs are short, the head flat, and the jaws enormous, armed with teeth standing apart, the lower jaw receiving into the intermediate spaces the teeth of the upper jaw. These creatures are so wonderfully constructed by nature, that while the mouth is below the water holding there its prey till it is drowned, it can still breathe with perfect ease through the nostrils. In swimming they impel themselves forward by lashing their tail from side to side, leaving a foamy track in the water behind.

The eggs of these creatures are larger than those of a goose, and covered with a parchment-like membrane. The female buries them in the sand or mud of the river-banks, where they are hatched by the sun, when she returns for them and leads them towards the water, feeding them in the first instance with undigested food from her own stomach. When first hatched, they are about six inches long. In remote rivers, where these reptiles abound, they may be seen basking on the banks in the sun, or lying perfectly motionless in the water, with their brown, log-like heads thrust up among the beautiful and luxuriant water-plants which spring in the shallows of the river. It is in the night principally that they pursue their prey, chasing fishes and seizing on any animal that comes in their way, uttering the while such loud and dismal bellowings as may be heard to a great distance. Men, however, are not often attacked by them, unless when bathing or swimming in rivers which they frequent, or when they believe their young to be in danger. If their prey is larger than they can devour at once, they bury it in the muddy bank of the river, and eat it when it



ATTACK ON AN ALLIGATOR.



FIGHT BETWEEN A TIGER AND A CROCODILE.

has become putrid. The crocodile, which is now said to have disappeared from the Delta of Egypt, but which still abounds in the Upper Nile, was held sacred by the ancient Egyptians.

Crocodiles are numerous in Ceylon. Major Forbes says:—"The tanks and sluggish streams in the neighbourhood of Putlam are infested by crocodiles in great numbers. These reptiles sometimes attain the length of seventeen feet, and not having any enemy sufficiently powerful to combat with success, except man, are to be found in every small piece of water in those flat districts where population is scanty. In the mountainous regions crocodiles are seldom seen; but in districts where they abound human beings even occasionally become their prey, which they generally secure while it is in a state of rest, although I have heard of a man being seized and dragged from a small canoe, in which he was crossing a river in Magampattoo. They destroy great numbers of deer, young cattle, and animals of all kinds, which come to drink or lie down to cool themselves in the rivers and ponds. In hunting or coursing, it is necessary to ride well up to your dogs, and advisable to fire a pistol on approaching water, as otherwise the dogs run a great risk of being taken down by crocodiles; indeed, this so frequently happens as greatly to diminish the pleasure of hunting.

"When a party has to pass through deep water, crocodile-charmers give assurance of safety, and are always successful in bringing their employers along unharmed. Such conjurers as I have seen employed took care that the whole party had assembled on the bank, while the incantations, accompanied by splashing the water, were going on. Before long they were informed that the crocodiles were muzzled, on which they all rushed in together, thus creating sufficient disturbance to frighten away the crocodiles, even if the charmers had failed of their power."

Charmers of terrible and blood-thirsty animals are common in the East. The pearl-divers of Ceylon will not venture on their perilous calling without the shark-charmer is present. "These charmers," says a traveller, "all belong to one family, and no person who does not form a branch of it can aspire to that office. The natives have firm confidence in their power over the monsters of the sea, nor would they descend to the bottom of the deep without knowing that one of these enchanters was present. Two of them are constantly employed; one goes out regularly in the head pilot's boat, the other performs certain ceremonies on shore. He is unclothed and shut up in a room, where no one sees him from the period of the sailing of the boats till their return. He has before him a brass basin full of water, containing one male and one female fish made of silver. If any accident should happen from a shark at sea, it is believed that one of these fishes is sure to bite the other. The shark-charmer is called, both in the Malabar language and in the Hindostanee, by words which signify in both a binder of sharks. It is believed that if the conjuror is dissatisfied, he has the

power of making the sharks attack the diver : from this cause he is always well paid. Whether these men are impostors or not, it is yet singular that, though sharks are often seen from the boats, and by the divers themselves when they are at the bottom of the sea, yet that accidents very rarely occur ; perhaps not more than one in the course of twenty years."

There would, however, be no need of crocodile-charmers if every one had the courage and determination of Charles Waterton, an English naturalist, who on one of his visits to South America had a wonderful encounter with one of these tremendous beasts, on the banks of the Essequibo. He caught him with a wooden hook, baited with a small antelope, and then dragging him out of the water by the rope which held the hook, actually leaped upon his back, and seizing his fore legs, drew them over his back for a bridle ; and though the creature plunged and lashed the sand with his powerful tail, kept his seat till he and his strange rider were hauled sufficiently on land, when his jaws were tied up, his tail held down by main force, and he, a complete captive, was killed and carefully prepared for the naturalist's museum.

The crocodile of the Ganges is called the Gavial ; its head is formed with a beak something like that of the spoonbill, and it feeds chiefly on fish. Fossil remains of crocodiles are found, both with bills and broad snouts, the former, however, apparently belonging to that earlier period when waters, with their fishy inhabitants, covered the greater part of the earth, and the latter to that after period when quadrupeds prevailed which, as now, would become their prey when coming to the rivers to drink.

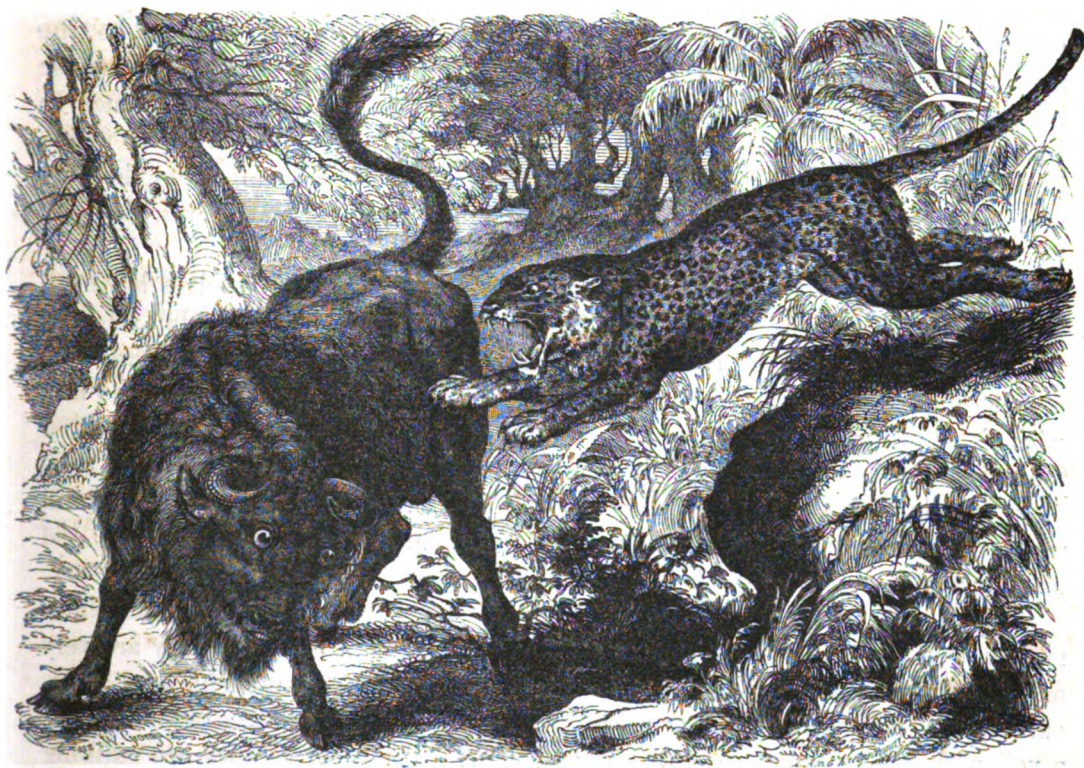
The American Bison, or Buffalo, which is represented in our engraving (p. 21), though it is difficult to say how it can be attacked by the jaguar, seeing that they are not found in the same portion of the New World, bears a great resemblance to the Aurochs of Europe. The aurochs, which is now only found in a forest of Lithuania, and the bison, seem, with their ponderous forms and immense power, their fifteen pairs of ribs and their grave yet savage countenances, to belong to some primeval state of existence ; as if they, the companions of the mammoth and the great fossil crocodile, had by some strange chance escaped that vast destruction which swept away the larger race, and left the earth to be tenanted by one smaller and still more terrible. As yet all attempts to tame and domesticate the wild bison have been unsuccessful ; the cultivation of the earth by man, as he advances still further into the western American wilderness, which has for countless ages been his own, alone subdues the bison. As man takes possession of the great prairies of the west, the bison retires before him.

Bisons are migratory in their habits, and wander from district to district in search of food ; they spread in vast herds over the beautiful prairies, where pasturage is so abundant. During the summer, says a writer on this animal, they visit the marshes, the rivulets, and the pools, and delight in the luxury of a

bath. Herds, containing at least twenty thousand individuals, have been seen crossing rivers a mile in breadth, on their passage to some distant feeding-ground. They visit the salt lakes, and are to be found there at all seasons of the year, some leaving the saline morass, others travelling towards it. These herds are incessantly persecuted by the hunters, who often thin their numbers with their rifles, while the Indians get up hunting-matches, using their bows and arrows against them with success. The flesh of the bison is in great request, and is prepared in various ways. The Indians dress the skins with the hair on, and which serve as blankets and warm wrappers; the fleece is also spun and woven into various articles. The horns are made into powder-flasks. The bull bisons have frequently terrible combats together, and woe to the man who approaches them when thus excited to fury. The bulls and cows generally live in separate herds, though one or two old bulls not unfrequently attend the herd of cows. They have no fear of the wolf, but are often overcome by the tremendous and fierce grizzly bear.

A full-sized bison, eight feet and a half in length, without the tail, and about six feet in height on the shoulders, will weigh about fourteen hundredweight. In winter his body is covered with shaggy hair, which falls off in summer, excepting on his forehead, forequarters, under jaw, and throat, where the hair is always long, shaggy, and mixed with wool. The long hair which hangs over his eyes frequently prevents his clear sight, but this is made up to him by his extremely good scent. A bull in summer, with his bare body and his head muffled with long hair, is a terrible sight to behold, especially so when, as in the case of a Mr. Percival, the hunter has shot at but not killed him, and he now beholds him with his shaggy head close to the ground before his fore-feet ready to spring upon him. If we had room we would give the whole of this gentleman's adventure with an angry buffalo, and how the encounter lasted for hours, he having lost his gun by a fall, and the two running round and round a tree, the buffalo pursuing and jumping at him in the manner peculiar to that animal, every time he thought he had a chance of catching him; and he, grasping the tree with his arms, and swinging round it faster than the unwieldy creature could follow, until his hands were sore with rubbing against the rough bark, and his limbs so weary that his heart almost failed him. And thus it went on for five hours and a half, by which time the buffalo was as tired and as disheartened as the man; and then the man's strength and courage again rose, and remembering that he had a strong knife in his belt he contrived to stab the creature, which, after bellowing, groaning, and tearing the ground, fell down and expired.

The last wild beast of which we can give an account is the lion, the king of the wild beasts, the king of the desert, the lordliest beast which God has made. The description which that modern Nimrod, Gordon Cumming, gives of him is very fine:—"It was," says he, "on the night of the 19th of March



A BISON ATTACKED BY A JAGUAR.

that I first heard the deep-toned thunder of the lion's roar, and though it was a sound which till then I had never heard, there was no mistake about it."

"There is something," he continues, "so noble and imposing in the presence of the lion, when seen walking with dignified self-possession, free and undaunted on his native soil, that no description can give an adequate idea of his appearance. The lion is wonderfully formed by the Creator for the kind of life which he is intended to lead. He combines with immense power and agility a tremendous natural machinery, which enables him to overcome and destroy almost every beast of the forest, however superior to him in size and weight. He dashes to the ground, and overcomes with little difficulty, the lofty and powerful giraffe, whose head towers above the trees of the forest, and whose skin is above an inch in thickness. He is the constant attendant of the vast herds of buffaloes which frequent the interior of Africa, and as long as his teeth are unbroken, he is a match for the strong old bull buffalo; as to antelopes, gnoos, and zebras, they are his constant food.

"Lions will not refuse, as has been said, game which they themselves have not killed. The lion is common in the secluded parts of Southern Africa, but it is rare to find more than two, or at most three families of lions frequenting the same district, and drinking at the same fountain. When a greater number are met with, it is owing to a long-continued drought, which, having dried up other fountains, has driven them to the remaining ones to drink. The young ones often remain with the old lion and lioness until they are nearly full grown, and frequently three or four full-grown male lions may be found associating and hunting together in a state of perfect friendship.

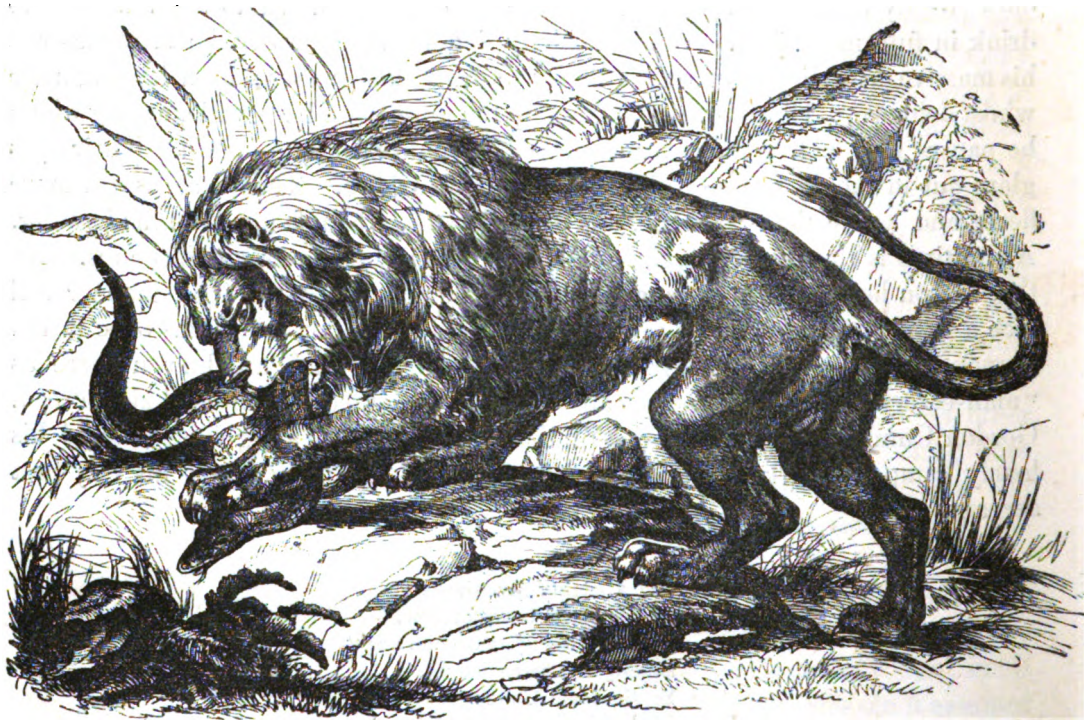
"The male lion is adorned with a long, shaggy mane, which sometimes sweeps the ground. The colour of the manes varies; sometimes they are very dark, at others of a fine golden yellow. This variation depends upon his age; in his earlier years it is yellow, in his prime of life black, and as he becomes old it assumes a yellowish gray, pepper-and-salt sort of colour. These old fellows are cunning and dangerous, and most to be dreaded. The mane of the lion is thickest and in finest condition when he frequents open districts free from trees; in thick forests it becomes torn and more scanty. The female has no mane at all; but is covered with a short, thick, glossy coat of tawny hair.

"One of the most striking things connected with the lion is his voice, which is very grand and peculiar. It consists at times of a low, deep moaning, repeated five or six times, ending in low sighs; at other times he startles the forest with loud, deep toned, solemn roars, repeated rapidly five or six times, and growing louder and louder to about the fourth time, when his voice dies away in five or six low, muffled sounds which resemble distant thunder. Sometimes a troop may be heard roaring in concert, one taking the lead, and three or four others taking up their parts, like glee singers. The terrific power and grandeur of these forest

concerts are inconceivable, and the effect is still more increased when the solitary hunter hears them in the dead of night, amid the gloom of the forest, and within twenty yards perhaps of the fountain towards which the triumphant lions are approaching.

"The lion comes abroad at night; during the day he lies concealed under a spreading bush, or low bushy tree, or in a covert of the mountain side. He is partial to lofty reeds and fields of long rank yellow grass, from which haunts he sallies at sundown on his nightly prow. Lions are most active and daring on dark stormy nights; nor do they seem to like coming down to the fountains to drink in full moonlight. When a thirsty lion comes to water, he stretches out his massive arms, lies down on his breast to drink, and makes a loud lapping noise whilst doing so. He continues lapping up the water for a long while, during which he pauses four or five times, for about half a minute, to take breath. Their eyes glare out in the darkness of night like two balls of fire. The female is still more fierce and active than the male, and even most so when she has not had young. At no time is the lion so much to be dreaded as when the lioness has cubs. At that season he knows no fear, and in the coolest and most intrepid manner will face a thousand men." But most terrible of all is the lion which has once tasted human flesh; then, like the royal tigers of Bengal, which are known there as "man-eaters" from the same cause, he is an object of unspeakable dread. Gordon Cumming relates that one of these terrible man-eating lions entered his lonely camp one dark night in the far wilderness, and carried off his very best servant.

God Almighty gave the lion
Sinews like to bands of iron;
Gave him beauty, gave him might,
Majesty and fierce delight.
Yet the same Almighty Power
Clothed in light the little flower.



THE LION.



BUTTERFLIES AND MOTHS.

IN entomology, or the science of insects, Butterflies and Moths are classed as *Lepidoptera*. Butterflies belong to the day, and moths to the night. They all are possessed of six legs and four wings, which are of large size, in proportion to their bodies; their beautiful wings, seen by the naked eye, appear to be covered with powder, but when examined by the microscope, are found to be clothed with minute feathers of the most exquisite workmanship; it being calculated that there are upwards of 100,000 of them in a single square inch of a peacock butterfly's wing. When these tiny feathers are removed, the membrane of the wing is left thin and transparent; and so richly varied are the works of nature, that in a few instances the wings of tropical butterflies have spots perfectly bare of plumes, leaving these regular transparent spaces to contrast beautifully with the rich velvet of the other parts. The ribs or nervures of the wings, as they are called, are not numerous, and are placed lengthwise. The little throat of the creature is muffled in a downy tippet which reaches to the base of the wings, or its shoulders, as one may call it. Its head is adorned with beautiful slender antennæ, or horns, which are composed of innumerable minute joints; and its mouth is a proboscis calculated for sipping the nectar or sweet juices from flowers. If a butterfly, it is possessed of a pair of wonderful compound eyes, of which I will speak anon; if a moth, it has, in addition to these, a second set placed amid the hair of its head.

But, as regards the eyes of these beautiful creatures, they are not more extraordinary than the eyes of insects generally, nor will it be lost time if we now say a few words on this interesting subject.

Besides the two large round eyes which are very conspicuous in the head of an insect, as a butterfly, a bee, or a house-fly, for instance, there are those smaller eyes which I have just mentioned, which are called by naturalists *ocelli* or *stemmata*, and which are like little points of light, generally placed in a triangular form between and above the larger eyes. Some insects, therefore, have five eyes, others eight, and the spider and centipede as many as twenty.

As two eyes are sufficient for all human purposes, you may naturally ask why insects are so superabundantly supplied. I can only answer that God has made the lower creation wonderfully beautiful and curious, as if to excite our inquisitive attention in order abundantly to repay it. The bee with his large eyes can see to an immense distance, so as to find his way through miles of

trackless air to his home in the hive. Yet, after all, when he has arrived there you may sometimes see him blunder against the door of his dwelling as if he were blind, stupid, or half tipsy. The reason, no doubt, is, that he has been looking so long with his long-sighted large eyes, that on reaching his home he has forgotten to make use of his *ocelli*, or little eyes, which are intended to look at that which is near, and by which he examines flowers, and uses when at work in the hive, and hence he has now blundered against the hive instead of going into it.

Besides the singularity of having these various kinds of eyes, there is a wonderful peculiarity belonging to their larger eyes which must be mentioned, and which has especial reference to the eyes of the butterfly. These eyes, instead of having a smooth surface, like yours and mine, are cut into thousands of little facets or faces, like a finely cut diamond, or a piece of cut glass through which you may have looked and seen an object multiplied twenty, fifty, or a hundred times. The eye of a butterfly, for instance, small as it is, consists of more than seventeen thousands of these facets, and the eye of a common housefly, seven thousand; and yet for all that, a butterfly, or a fly, receives on its little brain as perfect a representation of the object at which it is looking as if its eye, like yours, reflected it only single. Nevertheless, scientific men can take an insect's eye, with all its little facets—like a wonderfully cut diamond—and placing it in a strong microscope, let any one see how it at the same time diminishes and multiplies objects thousands of times. The eye of a flea can do this just as well as the eye of the most beautiful of butterflies, for nothing is too mean in nature to be exquisitely and carefully made.

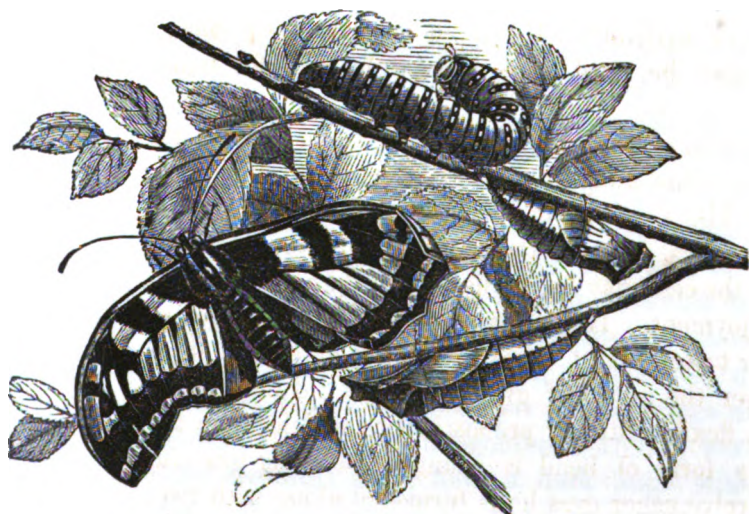
The eyes of some insects, as those of a little shining beetle which may be seen on a summer's day merrily whirling about on the surface of water, for instance, are divided into an upper and lower half, the one for looking up into the air, the other, down into the water;—the eyes of the harvest spider, which lives among grass and stubble, are fixed at the top of its head, which is the best situation for them; while those of the common spider can command a view all round, above, below, and behind, so that she may well see when danger approaches, or when her prey, in the form of a poor fly, is within her reach.

The eyes of insects are immovable: though they are gifted with the most wonderful power of perceiving every object, they never look you properly in the face; and some of their eyes are as strange and terrible as any which have been given to pretended hobgoblins. If they were only big enough, they would be very dreadful: some have a dark pupil with a blood-red iris, illumined with a fierce glare; some of the gad-flies have eyes painted in stripes, like a harlequin's jacket; there are flies with golden eyes, and other insects with beautiful eyes like flowers.

So much for insects' eyes in general: let us now return to our butterflies.



THE WHITE ADMIRAL BUTTERFLY.



THE SWALLOW-TAILED BUTTERFLY.



THE APOLLO BUTTERFLY.

The most remarkable feature in butterflies, besides their external beauty, which first recommends them to the attention of every one, is the peculiar metamorphosis or change through which they pass. We will take, for example, the common cabbage-butterfly, one of the first butterflies of the year, and which as such, and as the herald of spring and summer, long warm days, sunshine and flowers, is always a welcome visitant to our gardens. For the first state of this delicate creature we must go to a bed of cabbages, where most likely we shall find little parcels of green eggs, from each of which in due time comes forth a crawling caterpillar, clad in a greenish yellow jerkin, spotted with black; hungry as can be, furnished with sixteen legs and twelve eyes. The cabbage is its larder and its dinner-table, and the business of its life is to eat of the good fare by which it is surrounded. It accordingly eats and grows so rapidly that it soon outgrows its first suit of clothes; but nature, the ever good mother, has another, and yet another suit ready for it, which it slips on without any trouble: and so it lives till it has grown to caterpillar maturity, and then a strange instinct comes over it to put itself somewhere out of sight—to creep into some snug corner and there await patiently that which next shall happen. Sometimes, however, instead of creeping into a hole, it suspends itself by a silken thread behind the concealment of a leaf, and the strange change befalls it there as well as anywhere else. Here from a caterpillar it becomes what is called a chrysalis, or pupa; that is to say, it is shut up in a sort of little coffin, often very beautiful, and, in all the numerous tribes which are subject to these transformations, varying according to their species. In the case of our caterpillar, his coffin, or case, is of a greenish colour spotted with black. In this state his hungry mouth is closed, so are his twelve bright eyes, and his sixteen legs are all invisible. He is in a deep, deep sleep, he takes no nourishment—nor does he need any—and so he lies for many months.

Anon spring comes, the resurrection of the year, which awakes all nature into new being. The stone is, as it were, rolled away from the great sepulchre of nature, and the slumberers come forth. The chrysalis can no longer hold its captive; and furnished now with beautiful wings, white as those of an angel, or dyed with purple, and crimson, and gold, as the case may be, he floats into the sunny air, and seems to know no limit to his enjoyment. His coarse appetite for cabbages or nettles, or whatever his caterpillar tastes might have led him to choose, is at an end; nor indeed has he any longer the means of gratifying such did they exist; instead of ravenous jaws he has a flexible tube or proboscis with which to sip the honeyed nectar of flowers. The form of head is changed, two long graceful feelers adorn it, and instead of twelve eager eyes he is furnished alone with two, with those prominent, wonderful eyes of which we have spoken, cut in thousands of facets, like the finest diamond, and if each one of these be in itself a perfect eye, as naturalists suppose, producing to the creature a more marvellous effect of vision than we can conceive.

Such is the butterfly in all its changes; a beautiful emblem of ourselves given us by God as regards our present and future state. Here we are, as yet, the caterpillar; feeding on cabbage and crawling among nettles and thistles, with the great marvels of God's goodness and mercy around us, of which we take little heed. We live, as it were, wholly for ourselves, as the caterpillar does. Anon, this life of merely feeding and putting on and off clothes is at an end; a great change comes; we lie as it were asleep, bound hand and foot; our eyes are closed, and we need food no longer; but even then the greatest change of all is at hand; the stone is indeed rolled away from the door of the sepulchre, we need feet no longer, for we have wings; we are clothed with garments beautiful as the angels; the appetites and low pursuits of earth no longer attract us to it; we soar upwards into the full daylight of God's love, and approach somewhat nearer to his presence. This it is which the butterfly shows us in its own beautiful being, and we ought never to look upon it soaring upward in the sunshine without blessing the Creator for giving us through it assurance of our future destiny.

So strikingly indeed do these insect-transformations appear to represent the universal hopes of immortality, that the Greeks, who had not the gospel to give them its blessed assurance, regarded the butterfly as the emblem of the immortal soul. In Greek it was called *Psyche*; and it is said that the butterfly has been found sculptured upon old Greek gravestones above the name of the interred, as if to say that the soul would one day come forth again in a new and more beautiful form to a new state of existence.

We have spoken above of the caterpillar as living upon cabbage, with his ravenous appetite, and clad in a light green jerkin; and perhaps we have made him rather an object of disgust than otherwise. We meant not to do so, for though he may crawl and devour coarse vegetables, he merely performs faithfully his part in nature, and for that he deserves our respect. But independently of this, many caterpillars, if not he, are well worthy attention from the beauty of their colours and decorations. These, if caterpillars are taken as general types of humanity, are human beings, clad in heraldic coats, in grotesque and gorgeous liveries, in queer, quaint costumes of brocade and velvet, harlequin jackets, or court-dresses. As a pleasant guide on this subject, we will follow a clever entomologist who writes under the name of *Acheta Domestica*.

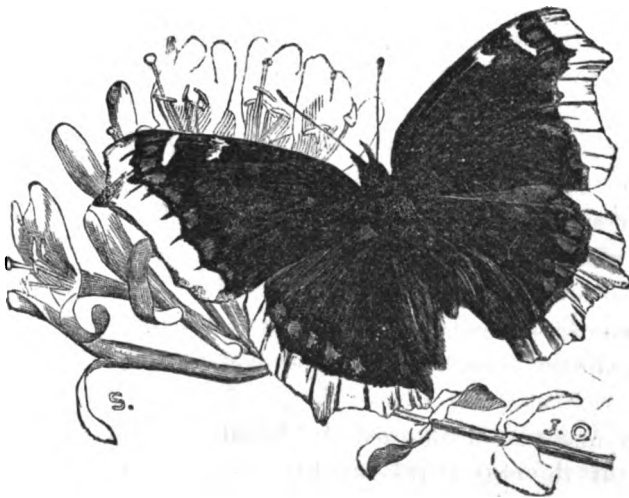
"Among the most beautifully painted of the caterpillar race, are those from which spring the elegant and distinguished tribe of hawk-moths, known as *sphinxes*, (two specimens of which may be seen on our fourth cut.) Of all these, however, the most tastefully decorated is that of the privet-moth, with his doublet of brilliant apple-green, laced by cross stripes of white and purple, adorned along the sides by orange breathing-holes, and furnished, as if by way of tail, with a black and yellow horn. Little inferior as regards colour is the garb of the privet's cousin of the lime-tree. His surtout is light green on the sides, but so



PAPILIO PODALIRIUS.



THE MIRROR BUTTERFLY.



THE CAMBERWELL BEAUTY.



THE MARBLED WHITE BUTTERFLY.

brightly green on his back as to outshine the greenness of the newest leaves around him. His sides are variegated by seven slanting stripes of yellowish white and crimson, his head is bordered with white, and his sixteen feet are of a rosy red. His horn or tail is bright blue, and his whole body is dotted over with a roughness which gives it the appearance of shagreen. In fact the skin of all the hawk-moth caterpillars is of this kind. The caterpillar of the puss-moth surpasses, however, the above. He is a complete harlequin. His mouth and lips are somewhat yellow, his forehead is purple, he has two eye-like spots on his broad and fleshy shoulders, which, when he is sitting up, as is the manner of all the sphinxes, he draws round his head like a cowl or hood. But," continues the author from whom we quote, "it is impossible for words to describe him." We hope, therefore, that the young reader next July may happen to meet with him perched on a rather low branch of poplar or willow.

Some caterpillars have two curious upright horns, one near their heads, the other like a comical tail. Others again are all striped and figured in yellow, scarlet, black, and white; some are black and yellow spotted on a white ground; and others, which are very gay in their earlier attire, put on as they approach their last moult, one much plainer; nor is it at all unusual for the soberest-coloured moths to spring from the gayest and most whimsically attired caterpillars, as is the case with the puss-moth.

The chrysalides of butterflies are also frequently and curiously marked and ornamented; while those of moths, which, as if in character with their love of dusk and darkness, are for the most of various browns or dirty white. Sometimes the chrysalis of the butterfly, as it hangs suspended by its silken thread, will reflect the rays of the sun like burnished gold. This effect may be seen in the month of August among the chrysalides of the small tortoise-shell or nettle butterfly, the *Vanessa urticae*, which having by that time gorged its fill of nettles, may be found suspended, head downward, on the stalks which they have stripped of leaves. The chrysalis of the painted lady or thistle butterfly, *Cynthia cardui*, is another of this beautiful kind, its whole surface being covered with golden streaks and speckles. But this gilding of the chrysalis is nothing after all to the splendour of gilding, silvering, and burnishing which appears upon the wings of many butterflies and moths; on some too appear singular mathematical figures; lines, points, angles, and triangles; on others again hieroglyphic symbols and characters of language, and what is still more extraordinary, may be found inscribed on one species, dates in the Christian era."

Having thus touched upon some of the marvels of interest and beauty which surround us on every hand, let us look at the cuts in this our little book, and discover what particular individuals of the great butterfly and moth families are thus presented to us.

Cut 2 shows us three beautiful butterflies, the white admiral, the swallow

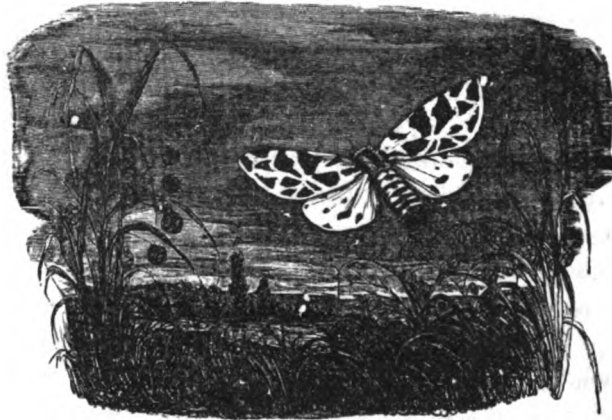
tail, and the Apollo butterfly. The admiral of the white, *Limenites Camilla*, appears with bars and spots of white and sable upon a brown ground; his colours are not brilliant, but he is remarkable for the exquisite grace of his mode of flying. The caterpillar is of a green colour, with head; legs, and spines, or bristles, which run along its back, of a rusty red; it feeds upon the honey-suckle, and its chrysalis is green spotted with gold. Nearly akin to this butterfly is a splendid species of the vanessa, called the admiral of the red, the *Vanessa atalanta*. He makes his appearance in August or September, when the rich-hued autumn flowers are in bloom, and neither dahlia nor marigold, with all their pomp of purple, and crimson, and gold, can surpass his splendid attire. His upper wings appear as of black velvet, across which runs a band of scarlet; they are enlivened with white spots and white scalloped edges; on the lower wings the scarlet, which forms the border, is enriched with black spots; the edging is scalloped black and white, and there is a small blue crescent on each wing.

The caterpillar of this splendid butterfly, which is greenish black and spiny, feeds on the nettle, and may frequently be found in July and August. By means of a silken thread (again we quote *Acheta Domestica*) he draws together, edge to edge, a single leaf, out of which he thus forms himself a temporary hut or case, with openings at either end, which go on widening before the jaws of its occupant. Thus he eats himself, as it were, out of house and home, and then betakes himself to another leafy tent which he prepares in the same way."

Our next butterfly is the swallow tail, *Papilio machaon*, but represented at the moment when he has just left the chrysalis, which is figured likewise, and before the wings have attained their swallow-tail development. This is a very handsome but by no means common butterfly, but may, by chance, be found in Middlesex, Hampshire, Cambridge, or Norfolk, by any of you who live in those counties, between the months of May and August. This is one of the most beautiful of English butterflies; its colours are a fine brimstone yellow upon velvet black, which in the upper wings is powdered, as it were, with yellow scales, and in the lower wings pearly blue; but to each of these lower wings also is added the black tail and a red eye-like spot of great beauty. The caterpillar which is here represented, is also very handsome; the skin is smooth, variegated with black and green, and it bears at the back of its head a small flexible horn in the form of the letter Y, which it raises when alarmed. It feeds upon umbelliferous plants, chiefly on the carrot, wild or cultivated.

Nearly allied to the foregoing, and greatly resembling it, is another swallow-tailed butterfly of great beauty, the *Papilio podalarius*, shown in our following cut, and a native of the South of Europe.

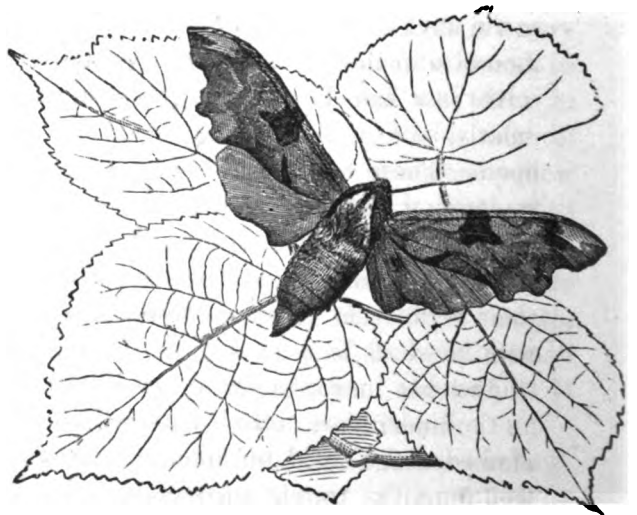
The Apollo (*Parnassius Apollo*) is also a foreigner, and may be met with in some of the mountainous districts of the Continent. The ground colour of this butterfly is white, the upper wings have three or four black spots upon them, and



CHELONIA PUDICA.



THE DRONE BEE HAWK MOTH.



THE LIME HAWK MOTH.

the lower are adorned above with two and beneath with three red eye-like spots with white centres, surrounded with black rings. This butterfly is found even in Siberia. The caterpillar is furnished with that curious appendage to the head which we mentioned as found in the caterpillar of the swallow-tail.

Our third butterfly in this cut is of the fan-winged genus *Vanessa*, the caterpillars of which are all spiny, many of them feeding on nettles. These butterflies are distinguished by their rich deep colouring, their finely scalloped wings, and the shortness of their forelegs, which do not serve them for walking purposes. Of this class of butterfly, which is not only beautiful but common, is the tortoise-shell, *Vanessa urticae*, or nettle-tortoise-shell, which occasionally makes its appearance in winter. It is so called from its orange black-spotted wings, margined by a border of blue crescents, and thickly furred at the base with golden hair which helps to keep it warm, no doubt, in the cold weather. The caterpillars are greenish black with yellow stripes, and spiny like the nettle on which they feed.

The marbled white butterfly, our fourth in that cut, is of a yellowish white, spotted with black. It is a pretty butterfly, common in many parts of England, and may be found in meadows bordering on woods, where the caterpillar feeds upon the common cat-tailed grass. The chrysalis of this butterfly may be found lying upon the bare ground.

We now come to a specimen of the *Hesperiæ* family, Skippers, as they are called in plain English, which seem to make almost a link between the butterflies and the moths, having habits common to both. Butterflies, as we have said before, belong to the day; moths to the night; these skippers, besides flying in daylight, are common also in the evening: again, butterflies when they take repose, or poise themselves in a half-dreamy state, as it were, on a flower, fold their wings perpendicularly, so as to display the under side, while moths usually rest with them wide open. These skippers, or *Hesperiæ*, therefore, apparently imitating both and resembling neither, generally repose with their upper wings closed and lower ones open, which, however, is but imperfectly shown in our cut.

Several species of skippers, so called from their short, jerking motions during their flight from flower to flower, are common to this country, and may be met with in woods and lanes from May to August. The most general or larger skipper has its wings variegated brown and tawny orange, the upper pair yellow on the under side, and all four fringed. Some of the caterpillars of this tribe are clothed with formidable spines; others are quite bare; some of these caterpillars feed upon the rough teasle, others upon grasses and low-growing plants; some of them also roll the leaf together on which they feed.

Passing through this intermediate link, we now come to the moths proper; the dusky, downy night-fliers. But before we speak of the particular kinds here presented, we would call your attention to that strict and beautiful harmony, that

exact fitness of one thing to another which is found throughout all nature. Butterflies bright and glowing belong to the full blaze of day, to the rich colouring of flowers seen in the brilliance of sunshine; moths, on the contrary, belong to the subdued light of evening and the sombre shades of night. Their colouring, therefore, is soft and sober, and they are clothed with down, like the owl, as if to make their flight perfectly hushed. Wonderful are they with their plumed antennæ, their plumed and fringed wings, their plumed and feathered feet, perfect emblems of the hushed stillness of night.

We have spoken of the devouring caterpillars of the butterfly, but the most ravenous devourers by far are the caterpillars of the moth. If you see forest trees, and long, thick lines of hawthorn hedges stripped of their leaves in spring, you may be sure that the caterpillar of a moth has been there. The oak-tree is a prey to a species of moth called the gold-tail; its young foliage is devoured as it puts forth its amber beauty to the sun, and through the summer it stands a dreary, desolate object, leafless and forlorn; its enemies having spun themselves silken hammocks in which they sleep by thousands among its mournful branches to come forth the following year in the beauty of their transformation. Let us delay ourselves for a moment to see what this moth-enemy of the forest-oak is like, for perhaps passing such a tree in July you yourselves may find it, and it is worth looking for. Our friend, *Acheta Domestica*, shall give us its portrait:—"A little creature of surpassing beauty and elegance; her body clothed in a garment of softest swan's-down, trimmed at the bottom by a flounce of golden fur; her ample wings of the same unsullied hue, but of more satiny appearance, are bordered by a similar fringe, and even her delicate feet are furred or feathered with white nearly to her toes. Her full black eyes, though lacking lustre, do not lack beauty; and rising from her head in graceful curves a pair of snow-white plumes, complete her simple but elegant attire. She is the gold-tail moth, for whose simple tastes a drop of honey-dew, if not the air alone, is sufficient nutriment; the transformed gold-tail caterpillar, whose work of destruction is above her head."

First among our moths, at the end, is the great death's-head moth, the largest of our British moths, his extended wings being nearly five inches across; his colours are dark, shades of brown and black with lighter colouring intermixed, and with one small white spot in the centre of his larger wings. His smaller wings are more lively in colouring, being of a whitish yellow, barred with black, as is also his large body. The head and throat are dark, and it is upon the back of the latter, or rather upon his shoulders, that the creature bears that peculiar marking, in a yellowish gray upon a dark ground, which resembles a death's-head, and to which it owes its name. This peculiar mark, together with a singular faculty which it possesses of uttering a mournful sound, made it in old times, and even among the ignorant of the present day, an object of terror.



THE GYPSY MOTH.



THE LAPPET MOTH.

In the year 1733, a very fatal epidemic disease, which prevailed in Brittany, was attributed to these moths because they happened that year to be abundant in the neighbourhood. The caterpillar of the death's-head moth is large and beautiful, and as its favourite food is the potato, it is probable that by looking into a bed of these plants in any kitchen garden you might find it. It is of a yellow colour, with seven green stripes on each side, between which are blue lines and black spots. It has a pointed, tail-like horn, common to hawk moths, and also possesses a little voice uttering a sort of snapping sound when disturbed. It also feeds on the leaves of the jasmin, or hemp, elder, and woody nightshade; it must, however, be sought for in the evening, as it hides under the leaves, or even burrows in the earth to avoid the hot sunshine.

Towards the end of August or beginning of September, their caterpillar life comes to an end, when they retire to an underground habitation, or lay themselves, as it were, in the grave, to come forth about October, in their strange and gloomy attire. The death's-head moth, though properly no object of terror to the human race, is such, with truth, to the hard-working inhabitants of the hive. The death's-head moth, like his relation, the hawk moth, is very fond of honey, but not possessing, like him, a long pliable proboscis, with which to extract nectar from the deep cups of the flower, becomes a wholesale plunderer of the hive into the shallow broad cells of which he can insert his short, stiff proboscis, and help himself as with a spoon. You may think it very bold of the death's-head moth, who has no sting to defend himself with, nor yet is encased in armour like the beetle, to enter thus into the bee-citadel, which is armed like a garrison, and the population of which are all soldiers; but though the incensed bees shake their wings and send forth a loud buzz of anger and alarm at his approach, which is in the twilight, he regards it not, and enters fearlessly, changing their defiant and angry buzz into one of alarm and panic terror. In he comes uttering his wailing cry, and the stout bee-sentinels shrink back aghast, and the hive murmurs in terror, while the awful voice wails on, and the fearful enemy helps himself to the best treasures which it contains. No sooner, however, is he gone, than the paralysed population seem to recover their powers and vigour, so measures are taken, the only ones apparently in their power, to prevent a return of the awful visitant. A waxen wall is built most probably within the doorway of the hive, with an opening sufficient only to admit the entrance or exit of a single bee.

Next to the great death's-head comes his distant cousins, the hawk moths, or sphinxes, an interesting family, their names having reference to a peculiarity common to the tribe. Hawk moths, they are called because they have a hovering mode of flight, somewhat resembling that of a bird; and the sphinx, from the attitude which the caterpillar assumes, and which gives it a fancied resemblance to that fabled creature. The caterpillar of some of these species, many of which are named from the plants which they frequent, we have already mentioned, as,

for instance, that of the lime tree moth; the moth itself figuring on our cut upon the leaves of its favourite lime.

The moth hovering over the flower of the French marigold, is the drone bee hawk moth, not common in this country; its body is olive green, with tufts of black hair on each side; the wings are transparent, with a dark brown border, and the hinder pair are smaller, and have an olive green patch close to the body.

The smallest of the so-called hawk moths, though it is not classed by entomologists among them, but has the name *Macroglossa fuciformis*, is an interesting little creature, and as it is found in England, especially near the sea-side, from May to October, deserves notice. It is called the humming bird hawk moth, from a vibratory sound caused by its wings as it hangs like the bird over the flowers with the honeyed nectar of which it is about to regale itself. The tubes of no flower, be it honeysuckle, or marvel of Peru, or any other still longer or narrower than these, can defend their treasures from the long pliant trunk or proboscis with which nature has furnished this creature. It finds a rich feast also in the florets of composite flowers, as those of the single dahlia and sunflower. The antennæ of the hawk moths are delicately toothed, the little filaments frequently being so long as to give them the appearance of a feather. The same may be seen in the male of the gipsy moth, which is represented in our previous cut. The larger and lighter coloured of these moths is the female, of which it is said that she, as well as the gold tail, the oak devastator of which we have spoken, strip the soft down from their own bodies, to defend their eggs from the cold of winter.

Akin to this moth is the tiger moth, one of the largest, most beautiful, and most familiar of our British moths. It is produced from a large hairy bear-like caterpillar, which may be seen feeding on nettles and common hedge side plants.

Underneath our gipsy moths is the lappet moth, one of the pleasant vagaries of nature in which she amuses herself by making one thing resemble another. If you want to find it, as of course you will, you must go to a hedge, in which a variety of trees and shrubs grow, as hawthorn, bramble, black thorn, or willow, on one of which it probably may be found, though it is probable also that you may for some time overlook it, having mistaken it for a little cluster of withering leaves. Its four folded wings, ribbed like leaves and finely scalloped, are of a shaded brown colour, tinted with violet, and when found sleeping, as it mostly is in the daytime, it resembles a little tuft of fading oak leaves, whence the name which the learned have given it of *quercifolia*.

Lappet moths are produced from very hairy caterpillars, the hairs of which penetrate the skin and produce inflammation; it is better therefore not to handle them. They are also called *Eggers*, from the egg-like form of the case or cocoon in which the chrysalis is enclosed. The silkworm belongs to the same family as the lappet moth, and with its cocoons of delicate and valuable silk, our young



NEST OF PROCESSIONARY CATERPILLARS.



FIDONIA PLUMISTARIA.

readers are mostly familiar. Many moths weave these outer cases in which they enclose the chrysalis.

But the most singular instances of this silk-weaving ability, occur in the case of moths, akin also to the above, where the caterpillars live together in companies in a cocoon-like nest which they have woven for their accommodation, and to which they return, as to their proper home, when they have done feeding, like a flock of sheep to the fold. Some of these, as the processionary caterpillar, whose nest, with an opening in the side to show the interior, is given on our facing cut, quit their nest, which is generally attached to an oak, in a regular and orderly manner, one taking the lead and being followed in single file for a short space; then come two abreast, then three, then five, and so on, until they march sometimes ten or twenty in a row.

Nor is this singular mode of living confined to the caterpillars of moths alone; it is common to some kind of butterflies; two different kinds, Mr. Rennie tells us, having both social tastes, and both feeding on the same plant, will also even live and work together in perfect goodwill. The caterpillars of the beautiful peacock's eye, and the small tortoise-shell or nettle butterfly, are both of this social character, and you may see them almost any day after midsummer, in almost any bed of nettles, going forth from and returning to their large gauze-like abode, at which they all work together, to extend or repair, as the case may be.

Some of the winter nests of these caterpillars are closely woven of silk, others are formed of leaves folded and held together by threads of silk. A traveller in Mexico describes himself as finding pendulous or hanging nests of caterpillars, which were very curious; they hung dangling by strong silken threads from the trees, and looked like those white paper bags in which people enclose bunches of grapes in England to keep them from flies and birds. The paper like substance which inclosed them was very strong, and on opening one, he found it to contain a great number of caterpillars, together with green leaves which furnished them with food.

There is always a little opening left in the dwellings for passing in and out, and the little inhabitants, let them wander as far as they may, find their way safely back again. This they do something after the fashion of Jack in the fairy tale, but instead of dropping white stones by the way, they leave a silken trace behind them, which they have nothing to do but follow on their return.

The moth hovering over the moth-mullein belongs to the family of *Geometers*, *Measurers* or *Loopers*, as their caterpillars are called, from their singular mode of moving, and which we omitted to mention before. These creatures loop up their bodies in the middle, bringing their heads and tails nearly together, having feet only at these two extremities. Thus being looped up at the beginning of their march, they hold by their hind legs, and stretch themselves out

to their full extent, then holding by the forelegs draw up their hind ones, and so go on looping at every step. Of this same kind also is the lappet moth. Other of these caterpillars stretch themselves out at their full length, and greatly resembling the twigs of the trees upon which they feed may be easily mistaken for them.



THE DEATH'S-HEAD MOTH.

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